COSTS AND PROFITS

Their Relation to Business Cycles

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PREFATORY NOTE

How is business? It is fine. Orders are piling up. It pays to buy almost anything: the price will be higher next week. Profits are larger than ever before. Wages are rising. There is a job for everybody who wants one. Factories are running at capacity. Prices of farm products are up; growers are tempted to borrow money in order to raise larger crops. All our statistics tell the same story — building permits, postal receipts, telephone calls, car-loadings, mail-order sales, bank clearings. Business is humming: confidence rules the day.

Presto! Confidence is shaken. Prices break. Orders are cancelled. Factories shut down. Jobs are scarce. Farmers are discouraged. Hard times are here again.

What has happened? When we have attained the heights of prosperity, is there no way of staying there? Must business always be like a roller coaster? These are questions with which any general discussion of modern economic problems may well begin.

To many, the answers seem clear and simple. Some people are sure that the obstruction is the gold standard: it is a "golden dam to the stream of prosperity." Some are convinced that slumps in business are due to a scarcity of money: let the Government issue more money, they say, based on land, or stored farm products, or the credit of the Nation; break the "money monopoly" and you safeguard prosperity. Others charge all our major ills to capitalism: to perpetuate good times, they declare, we have only to abolish private profit. Still others are sure that the germs of economic disease are moral: all business needs is adherence to the "Golden Rule." Other explanations of recurrent business depressions are equally facile, and the proposed remedies are equally simple. Abolish interest charges; use nothing but labor-hours as a medium of exchange; let the workers manage all industries; adopt the single tax: these are some of the naïve solutions of the problem.

Among the numerous writers on this subject, however, are many who have some conception of the complexity of the causes which operate in constantly varying degrees, at different stages of the business cycle, and in different combinations in different cycles, to accelerate or retard business activity. The analyses presented by May, Aftalion, Bouniatian, Spiethoff, Lescure, Lombart, and, in the United States, by Davenport, Fisher, Hull, Mitchell, Veblen, Sprague, Persons, and others, have all brought us nearer to an understanding of what actually takes place when a period of prosperity comes to an end.

Most of these men are aware that the explanation of business fluctuations is to be found, at least to a considerable extent, in the changing relation of the cost of doing business to profits realized; and some of them have observed that the disposition of profits, during a period of prosperity, has something to do with bringing the period to an end. But no competent student of business cycles fancies that we yet know enough about costs and profits to explain exactly what happens, or to propose measures for perpetuating prosperity that are as convincing and effective as we might reasonably hope to devise, on the basis of a better understanding of these particular economic factors. We need more exact knowledge about the relation of costs and profits, at different stages of a business revival, to many other factors — to the scale of production of tangible goods, for example, to forward buying and speculation in goods, and especially to shifting price-levels, changes in the circuit flow of money, and in the effective demand of consumers for finished goods. To add to our knowledge of these manifold and complicated relationships is the purpose of the present volume.

It is not easy reading. There appears to be no way of making the exposition of this subject easy reading, without making it false or fragmentary. To some reformers, as we have said, the subject presents no difficulties. In their writings, they make economic processes seem quite simple, which in reality are far from simple. By ignoring various factors and omitting various qualifications, they produce treatises that are much more readable and much more readily understood than this volume. Unfortunately, they do not tell the truth.

To aid the reader in understanding this necessarily intricate analysis of the relation of costs and profits to business cycles, we have presented, in Part I, an outline of the book. Part II contains the complete analysis. Most readers will follow the discussion in Part II more readily, if they will first read Part I.

In *Money*, which is the preceding volume of the Pollak Publications, we made some observations concerning the relation between the flow of money into consumers' hands and the flow of commodities into consumers' markets (Chapters XVI, XVII, XIX). The movement of money from one expenditure by a consumer for consumers' commodities, through various other channels, back to another expenditure by a consumer for consumers' commodities, we ventured to call the circuit flow of money. We enumerated some of the factors that accelerate and some of the factors that retard this flow; and we called attention to some unexplored aspect of the circuit flow of money that seemed to us alluring (Chapter XVIII). With some of these aspects, *Costs and Profits* deals.

In *Money* (Chapter XX) we maintained that, contrary to the central thesis of several modern schools of economics, there is nothing in the production of commodities for sale at a profit which, in and of itself, prevents consumers from obtaining enough money to buy the commodities at the current price-level, thus doing their part in conserving business prosperity. This is true even when the volume of production is increasing. It is true even when profits increase at a faster rate than wages. It is equally true, contrary to the doctrine of several of the most popular writers of to-day, even though a larger proportion than usual of the profits is invested in new capital equipment.

At the same time, we observed that whether or not a given business concern puts enough purchasing power into circulation to take its products off the market at current sale prices, and thus does its part in preventing a slump, does not depend on the size of the profits or on what the profits "represent." It does depend, in part, on what is done with the profits and when.

In dealing with this question, we made use in *Money* of some of the theses which we believe to be the original contributions of Mr. Hastings, and which are here presented in full with the supporting analysis. *Costs and Profits* proceeds farther with this subject than any other study with which we are acquainted. It considers, in detail, the ways in which organized producers of goods may so handle their costs and profits as to place in circulation enough money to prevent their operations from leading to a deficiency of purchasing power in consumers' markets. Thus, this study reaches new conclusions concerning the underlying causes of commercial crises.

These causes are as follows:

1. The fact that business concerns as a whole do not disburse an amount of money equal to the value of the things which they produce, in addition to all money received from outside sources.
2. Dealer buying to keep stocks commensurate with

sales, forward buying, and speculation: All of which bring about (a) the relative overdevelopment of those industries producing tangible goods intended for the satisfaction of individual wants, and (b) an almost continuous advance in prices.

3. The accumulation of stocks of goods held on speculation.
4. The use of savings and profits to pay for the creation of goods, other than those used in the processes of production and distribution.
5. The lag in the flow of interest and profits into the hands of ultimate buyers, on account of the intercorporate ownership of securities.

Those who have read the chapters in *Money* which lead up to *Costs and Profits* need not be told that these conclusions concerning the fundamental factors in business cycles seem to us sufficiently important to merit further study.

William Trufant Foster
Editor of the Pollak Publications

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IN the spring of 1921, Mr. Waddill Catchings expressed the conviction that one of the most important underlying causes of commercial crises is that, in a period of business activity, "the sales price of goods offered for use in consumption exceeds the amount of money which consumers have available for expenditures." He believed that there was such a thing as a general overproduction of goods at the current level of prices, and that a careful study of business procedure and the flow of purchasing power would reveal the causes of such overproduction. Acting upon these suggestions, the author proceeded with an analysis of the problem, the results of which are summarized in this volume.

The reader should bear in mind that this book is concerned throughout with the problem of general overproduction, not with the overproduction of specific goods or services.

Grateful acknowledgment is made of helpful criticisms of the manuscript by Dr. William T. Foster, Mr. Waddill Catchings, Professor Irving Fisher, Professor Wesley C. Mitchell, Mr. John E. Rovensky, and the author's brother, Russell Hastings.

HUDSON BRIDGE HASTINGS

COSTS AND PROFITS

PART I

OUTLINE OF THE BOOK

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Their Relation to Business Cycles

PART I

OUTLINE OF THE BOOK

CHAPTER I

1. Demands of buyers for prompt deliveries require the maintenance of stocks of goods.
2. Stocks may be in excess of "normal" on account of:
   - A. Forward buying, defined as purchases in anticipation of increased sales to customers, and increased delays in delivery.
   - B. Speculation, defined as purchases in which an anticipated increase in price is the controlling factor.
3. Once under way, forward buying and speculation each tend to increase the other; and, by the time business reaches a maximum, these two factors usually result in the accumulation of large stocks of goods.
4. There is a limit to the size of stocks which may be accumulated without such stocks menacing continued productive activity; for such stocks are a

potential source of supply in competition with current production.

5. Factors which determine size of stocks are:
    A. Demands of ultimate buyers as to time for delivery and volume.
    B. Delays in transportation.
    C. Interruptions in manufacturing operations.
6. Factors which give a false basis for determining stock are: (a) excessive forward buying, (b) speculation, (c) pyramiding of orders, (d) duplication of orders.
7. These factors would be smaller if there were: (a) stability in the price-level, and (b) a full and widespread knowledge concerning current production, stocks on hand, and current sales.
8. Speculative stocks are not a bar to sustained, productive activity, as long as market prices are supported by those who believe a satisfactory profit can be obtained on speculative holdings.
9. But speculation is for short turns: no one buys to hold from the top of one business cycle to the top of the next.
10. Sooner or later, such price movements are brought to a close. In any event, they must end before long because of the incapacity of our monetary system to finance a further rise in the price-level at a rate which renders unnecessary the general liquidation of speculative holdings.

11. Once the upward movement of prices is checked, it is soon followed by a decline in both prices and production.
12. The combination of speculation and excessive forward buying is a sufficient cause of, or at least provides the proper setting for, a commercial crisis.
13. The accumulation of unsold goods during the upward swing of business may be due in part to another cause, namely, the failure of the flow of purchasing power into the hands of ultimate buyers to keep pace with the flow of finished goods into the markets.

CHAPTER II

Our next problem is to discover the relation between the ultimate sale price of goods and the purchasing power of the ultimate buyer. This problem is approached by tracing the daily transactions in a simplified community, under various assumptions. These transactions lead to the following conclusions:

1. A permanent increase in the amount of goods or services produced for sale requires an additional amount of money in circulation, if the existing prices or the monetary habits of individuals, or both, are not to be permanently changed.
2. The sustained sale of the full daily output of goods at constant prices requires that producers

of goods shall daily disburse, for purposes other than the retirement of bank loans, an amount of money equal to the sale price of the daily output.

3. Even if producers of goods increase disbursements at the same time, and by the same amount, as the increase in the total sale price of their output, this increase in purchasing power may not reach the markets as soon as the goods; and, therefore, there may be an accumulation of unsold goods, until the new flow of money reaches its full volume on the retail markets.

4. Since producers of goods for a profit do not disburse this profit at the time the goods are produced, but only after the goods have been sold, they do not at the start of increased production disburse an amount equal to the sale price of the goods. If, however, they adopt a consistent policy of disbursing the full profits on such goods as they do sell, the time will come when the daily sales of commodities will equal the daily output, provided there is not a continuous decrease in the circuit velocity of money.

5. The temporary lag of the scale of profits behind the scale of production, and the readjustments in the relative value of goods following the introduction of new goods, tend to cause an accumulation of unsold goods; but the time will come when daily purchases will equal daily maximum output, provided:

A. All profits realized are promptly disbursed (bank loans being increased, if necessary, for this purpose).
B. Maximum production is maintained.
C. There is no maladjustment in the relative volume of the different kinds of goods produced.
D. Prices are maintained.

6. Since producers of services, and other individuals, can be counted upon to make and maintain some increase in bank loans when business is improving, the entire burden of increasing the supply of money commensurate with increased business activity, in order to avoid a decrease in the price-level, is not placed upon the producers of goods. The bulk of the burden is so placed.

7. There is no necessary correlation between the amount of money which business concerns borrow, on account of increased production, and the increased amount of money which the community as a whole requires, on account of the increased business accompanying this increased production, in order to maintain the existing level of prices.

8. A daily balance between production and sales to ultimate buyers may be maintained, irrespective of the amount of savings or undivided profits which are invested in new capital equipment.

CHAPTER III

Diagram 2 is presented to assist the imagination in picturing the flow of money through the many channels involved in the complicated economic structure of the present day. The diagram may be taken to show the flow of goods and services as well as money.

CHAPTER IV

We now consider the requirement that current disbursements of money by producers and distributors, on account of costs or profits, must equal the total sale price of the goods which they produce (and for which they must receive money in payment) plus all money received from other sources.

1. The analysis in this chapter leads to a restatement, as follows, of the two requirements for business stability which we have been considering:

   Other factors remaining unchanged, if there is no increase in the size of stocks regarded as normal, the current disbursements of money (or effective substitutes therefor) by producers of goods, on account of costs and profits, cannot be persistently less than the total value of the goods which they produce, and for which they must receive payment in money (or effective substitutes therefor); and, in addition, they must currently disburse all receipts of money from sources other than the sale of their output. If there is an in-

crease in the size of normal stocks, due to changes in business customs or procedure, any deficiency in purchasing power disbursed cannot be persistently in excess of the inventory value of such increases in stock.

2. The same conditions must prevail with respect to the disbursements by distributors of goods, and by producers of services and intangible goods; except that in the latter cases the disbursements must equal the value of product sold, since the products are not subject to storage.
3. The failure of any group to meet these requirements affects all groups.

CHAPTER V

We now raise the question to what extent organized producers of goods currently disburse an amount of money equal to their full costs of production, when business is in full swing.

1. Wages, Salaries, Bonuses, Premiums, Commissions, Royalties, Interest and Discount, Rent, Taxes, and Transportation are virtually always paid currently.
2. The cost of materials is not always paid currently. This fact sometimes prevents the creditor from making his current disbursements equal the full costs and profits of the goods which he is producing. This is one cause of the lack of a flow

of purchasing power equal to the flow of goods produced.

3. In so far as Depreciation and Obsolescence are covered by repairs and replacements, there is current disbursement of money equal to these elements of cost; although here, again, it is likely that the failure to pay more promptly for such of these items as are purchased on credit may prevent the creditors from currently disbursing the full amount of the value of their output, thus developing a deficiency in the purchasing power of ultimate buyers.

4. If these costs are not fully covered by repairs, replacements and additions, and if the business is being conducted at a profit and disbursements on account of current earnings have not exceeded these earnings, the decrease in the value of the fixed assets must be offset by: (a) an increase in the value of some other asset, or (b) a decrease in the amount of some liability or capital account, or (c) a combination of such offsetting changes.

5. If Accrued Depreciation is offset by increases in such Assets as Investments, Supplies, and Prepaid Expenses, or by Decreases in the amount of outstanding capital securities, such disbursements, which are made on account of Depreciation or Obsolescence, serve to maintain a balance between purchasing power disbursed and goods

produced just as effectively as if the money had been disbursed for Repairs, Renewals, or additions to Plant and Equipment.

6. On the other hand, if, as is often the case, Accrued Depreciation is offset by increases in Raw Materials, Goods in Process, Finished Goods, Accounts Receivable, or by decreases in the amount of outstanding Bank Loans, disbursements do not equal the value of goods produced.

7. These statements are clarified by simple illustrations in accounting terms. These illustrations show that the payment of a bank loan should not be considered as a "disbursement" of money, and that the balancing of Accrued Depreciation with a reduction of Accounts Payable is not likely to produce the same net result, as if the money had been paid out at an earlier date.

8. There are many causes for the widespread failure of concerns to keep plant and equipment up to a constant value during periods of business activity. The net effect, as stated above, is often to make disbursements less than the value of the goods produced.

9. Organized Producers of Raw Material, Producers of Semi-finished Products, Distributors, and Producers of Services and Intangible Goods also fail to make current disbursements equal to the value of goods or services currently produced.

10. Thus we note that, unless offset by other factors which we shall attempt to discover, the current business practice with respect to the handling of costs, *during a period of activity*, is such that the flow of purchasing power into the hands of the ultimate buyer in each successive period (say one year) is not equal to the value of the various things produced for his satisfaction. The result is in part responsible for the accumulation of unsold goods on such a scale as to provide the cause of, or at least the proper setting for, a commercial crisis.

CHAPTER VI

1. It is an almost universal practice of American business concerns to pursue a "conservative" dividend policy during periods of business activity. This is due, in part, to the fact that the determination of profits, even with the aid of the best accountants, is a matter of estimation.

2. However, a shifting of the line of demarcation between costs and profits does not affect their sum total, or necessarily change the relation between goods produced and purchasing power disbursed. Therefore, business stability, which depends partly upon the disbursement of money by producers (and distributors) equal to the value of goods produced (and handled), is not contingent upon an exact determination of profits.

3. The payment of a stock or scrip dividend, on account of earned profits, does not constitute a distribution of these profits.
4. However, the distribution to stockholders or others of all profits earned is not necessary, in order to sustain a flow of current purchasing power equal to the value of the flow of goods, when business activity is at a maximum.
5. If producers utilize profits to make payments for (a) extensions of Plant and Equipment, (b) Prepaid Expenses, (c) their own outstanding Capital Securities, or (d) Investments (except where the money so invested is used to pay for the creation of new goods for sale, before it is used to pay for goods to be used up), the use of profits is just as effective in helping to maintain a balance between goods produced and purchasing power disbursed, as if the same amount had been disbursed as dividends to stockholders, as profit shares to employees, or as gifts.
6. If, on the other hand, as is often the case, the undivided profits remain tied up in Accounts or Notes Receivable, or are utilized to increase stocks of Raw Materials, Goods in Process, or Finished Product, or to reduce Bank Loans, to this extent productive industry fails to maintain a balance between goods produced and purchasing power disbursed.
7. What we have said with respect to the disposition

of undistributed profits of producers applies, with obvious qualifications, to the other units of organized industry and business.

8. Throughout the foregoing discussion, we have been concerned only with earned profits. It is not necessary for business concerns to disburse unearned profits in order to make the sustained buying power of ultimate buyers equal to the volume of production. If all profits earned are currently disbursed, either as dividends or in the ways which we have noted above as equally effective, the volume of sales will gradually increase until it equals production.

9. This statement is based upon the important assumption, which we shall discuss below, that the total value of tangible goods is not out of proportion to the total value of other things (i.e., intangible goods and services) which are produced to meet the demand of individuals.

10. Thus, we note that the non-use of profits and the "improper" use of profits, which together represent a considerable part of earned profits during a period of business revival and activity, are responsible for the accumulation of unsold goods at such times, with a commercial crisis as the inevitable, ultimate result, even if there were no other factors tending to produce the same outcome.

CHAPTER VII

For purposes of illustration, three companies are chosen at random. The Balance Sheets of these companies show, for the year 1919, that they failed to establish a flow of purchasing power equal to the value of goods produced by approximately the following amounts: Bigelow-Hartford Carpet Company, $1,587,000; Cluett, Peabody and Company, $4,750,000; Kaufmann Department Stores, $1,500,000.

CHAPTER VIII

1. One of the principal sources of income, other than the sale of output, is interest and dividends on securities.

2. A study of Diagram 2 helps to bring out the fact that, if a balance is to be maintained between purchasing power and goods, this money income must be spent for goods to be used up, before it is used to pay costs or profits on goods produced by others.

3. If the total dividends paid by a company are equal to the profits on the goods produced plus the income received from other sources, the company does its share (as far as the disposition of profits and outside income are concerned) in maintaining a balance between goods and purchasing power.

4. If, on the other hand, the dividends disbursed are not equal to the above sum, what we have previously said in regard to the disposition of Undivided Profits applies in this case, irrespective of how we may allocate the source of these Undivided Profits as between earned profits and income from securities.

5. The lag in the flow of purchasing power into the hands of ultimate buyers, which is due to the intercorporate ownership of securities, presents a substantial obstacle to the upward swing of business activity and a still greater, though temporary, obstacle to *sustained* maximum activity.

CHAPTER IX

We have pointed out various ways in which producers and distributors fail, during a period of business activity, to disburse an amount of purchasing power equal to the value of goods and services produced; and we have concluded that, unless this deficiency in the flow of purchasing power is made good from "outside" sources, the inevitable result is a constant accumulation of unsold goods. We now turn our attention to these outside sources of purchasing power.

1. We must eliminate all sources of purchasing power for an individual or company, which are not sources of purchasing power for buyers of goods as a group. If, for example, a person sells

securities or real estate to an investor, his effective purchasing power is increased by the amount of money he receives; but he gains in purchasing power only to the extent that the buyer loses. Such transactions, therefore, add nothing to the buying power of individuals as a group.

2. The possible outside sources of purchasing power of a monetary nature are:
   A. Increases in the amount of money in circulation, through:
      (1) The output of the gold mines of the country.
      (2) A net balance of imports of gold from abroad.
      (3) Increases in the volume of paper money and subsidiary coinage.
      (4) Fiat paper money issued to meet an unbalanced government budget.
      (5) Increases in the volume of bank loans, not made to finance the production of goods.
   B. Increases in the circuit velocity of money, through:
      (1) Reductions in the cash balances carried by individuals.
      (2) An increase in the proportion of individual incomes spent for goods.

3. With the aid of an accounting analysis of a simple community, we note that, if a general deficiency

in purchasing power is to be overcome by monetary factors, this involves not only a constant increase in the general price-level, but (what is more important for our present purposes) a constantly increasing flow of purchasing power from these outside sources.

4. When we take into account (a) the limited extent of these monetary sources of outside purchasing power, (b) the fact that some of these sources decrease as business becomes more active and prices advance, (c) the fact that, in order to sustain business activity at the maximum, there must be a constantly *increasing* flow of purchasing power, if the deficiency is to be made up from these sources, we conclude that, although the flow of purchasing power from outside monetary sources may be sufficient to overcome the general deficiency in purchasing power during the first part of a period of business revival, this flow is far from sufficient to overcome the deficiency when business activity has reached a maximum; and, indeed, there seems to be no possibility that it will be, or in fact could be, made sufficient to overcome such deficiency as is now created, during the upward swing of business, by the present methods of conducting organized enterprise.

CHAPTER X

1. Possible outside sources of purchasing power of a non-monetary type are:
    - A. Companies which operate at a loss even in times of prosperity.
    - B. Increases in the total outstanding Accounts Payable of Ultimate Buyers.
    - C. Sale of stocks of goods and use of proceeds to purchase new capital equipment.
2. An examination of the first of the non-monetary sources of outside purchasing power shows that if a company is enabled to operate at a loss by (a) increasing its loans at the bank, (b) drawing down stocks in trade, or (c) reducing the average cash balance, such operations tend to offset the general deficiency of purchasing power.
3. If a company is enabled to operate at a loss by (a) reducing its Accounts Receivable, or (b) running up its Accounts Payable, whether such operations tend to offset the general deficiency in purchasing power depends upon the steps taken by the debtors or creditors of the company to meet the latter's demands.
4. If, on the other hand, a company is enabled to continue to operate by (a) not maintaining the value of the fixed assets, or by failing to set up adequate reserves of the proper sort, or (b) obtaining the investment of additional funds, such

operations at a loss do *not* help to overcome the general deficiency in purchasing power.

5. We may summarize the above conclusions in regard to the effect of the operation of business at a loss as follows:
    - A. It is only under certain conditions that the operation of business at a loss tends to offset the current deficit in general purchasing power. These conditions are that such operations involve:
        - (1) An increase in the volume of outstanding bank loans; or
        - (2) A reduction in average cash balances (in other words, an increase in the circuit velocity of money); or
        - (3) The meeting of cash deficits in current operations by the sale of stocks on hand.
    - B. Even under the above conditions, operating at a loss may simply offset previous deficits in general purchasing power created by the concerns themselves, since the last period of depression; and, therefore, may not help to overcome the deficiency created by successful companies.
    - C. Moreover, the disturbing effect of concerns operating at a loss offsets, in part at least, the favorable effect (considered strictly from the mathematical standpoint which we have adopted in the above analysis).

D. Therefore, the net favorable effect of concerns operating at a loss is so small as to be a minor factor in overcoming the general deficiency in purchasing power which is developed during the upward swing of business by the policies pursued by successful companies.

E. Nor does the operation of business at a loss offer a *permanent* source of outside purchasing power of any appreciable magnitude.

6. Turning now to the second of the so-called nonmonetary sources of outside purchasing power (namely, an increase in the total outstanding Accounts Payable of the ultimate buyers of goods), we note that:

   A. If such credit purchases do not exceed the accrued income of the buyer, they do *not* help to overcome the general deficiency in purchasing power, though they serve to make stocks lower than they otherwise would be.

   B. If, however, purchases do exceed accrued income, they help to overcome this deficiency, provided that the money necessary to finance such credit sales does not come from current savings.

   C. Since sales of the latter type are small, we find that increases in the Accounts Payable of ultimate buyers is a minor "favorable" factor.

7. As the last source of outside purchasing power which we shall consider, we turn to the sale of a part of stocks on hand and the use of the proceeds to pay for replacements or new capital equipment. Here we note that some concerns follow this policy during the early stages of an upward swing of business; and this policy does help to overcome the general deficiency; but by the time business reaches a state of maximum activity, virtually no concerns are following this policy.

8. We conclude, therefore, that non-monetary sources provide a negligible flow of outside purchasing power during the upward swing of business; and these sources diminish in importance as business approaches, and continues to operate at, a state of maximum activity.

9. Our general conclusions with respect to the operation of organized business and industry during the upward swing of the business cycle are as follows:
   - A. The policies which some concerns follow in handling certain items of cost, and which nearly all concerns follow with respect to Undivided Profits, create a large deficit in purchasing power, compared with the value of goods produced.
   - B. Although various factors tend to offset this deficiency, their combined effect falls far short of the required amount. This is particularly true during the later stages of

an era of prosperity, when these offsetting factors are decreased by the approaching exhaustion of the possibility of further credit expansion by the banks, while the amount of the current deficiency is constantly increasing.

C. Therefore, the above methods of conducting organized enterprise provide one of the principal causes of, or at least the proper setting for, a commercial crisis. Indeed, as long as the above policies are pursued to the extent that they are now pursued during a period of business revival and activity, there is no possibility that the deficiency in purchasing power will be permanently overcome by other factors; and a commercial crisis is the certain, ultimate result, even if there were no other causes tending to produce a crisis.

CHAPTER XI

1. We have drawn all our illustrations from organized industry; but the effect of given methods of operation are the same whether or not the concern maintains an accounting system.
2. There are, however, far-reaching differences between organized manufacturing and farming, the largest of the unorganized industries:
   A. In the first place, there is nothing in the

handling of the item of Accrued Depreciation by the farmer which tends to create a deficiency of purchasing power, since he does not balance Accrued Depreciation by increasing either his stock of goods for sale or his Accounts Receivable.

B. In the second place, there is no tendency to create a deficit of purchasing power on account of the ways in which farmers handle the item of profits; for, although farmers may utilize profits to increase production, the crux of the situation is that, year in and year out, their disbursements of money equal the value of the goods which they produce for sale.

CHAPTER XII

Our thesis, so far, has been that, unless business concerns disburse an amount of money equal to the value of their product, in addition to all money received from sources other than sales of product, there is not enough purchasing power in the hands of the ultimate buyers of goods to take current production off the markets.

We shall now attempt to show that even if the above conditions are fulfilled, and there is no investment of savings in stocks of goods, there is a constant accumulation of unsold goods, during the upward swing of the business cycle, on account of "overproduction" of tangible goods.

1. With the assistance of Diagram 1 and an accounting analysis, we see that it is possible for the value of tangible goods produced for the satisfaction of individual wants to exceed that part of the income of individuals which is spent for such goods.

2. Such a situation persists during the upward swing of business, because sales of goods are not restricted to individuals who buy for use, but include purchases by (a) dealers who are increasing stocks on hand, in order to maintain stocks commensurate with actually increased, or expected increased, sales; or by (b) outside speculators.

3. If the more rapid expansion of industries producing tangible goods (compared with those producing intangible goods and services), during the period of business revival, did not carry them beyond the point where they could be sustained with business in general at the maximum, the stocks of finished goods accumulated during this period would not necessarily bar undiminished activity.

4. But if, on the other hand, this overdevelopment continues after business activity reaches a maximum, and if there is a lack of knowledge of the volume of current production, stocks on hand and sales, the result is the accumulation of such large stocks of goods that a commercial crisis is inevitable.

CHAPTER XIII

1. Before drawing our final conclusions, we may note that, during a period of business revival, there may be a temporary deficiency in the volume of sales to ultimate buyers compared with the volume of production, due to the time which it takes for all the channels through which money flows to become filled with a flow of money commensurate with the state of productive activity. However, this lag in the development of the full flow of purchasing power may be more than offset by sales that involve the spending of the proceeds of increased bank loans, before this money is used to pay for the creation of additional goods. In any event, a deficiency of purchases due to this time factor is temporary.

2. So far, we have assumed a constant price-level; whereas, during the upward swing of business, the price-level rises. In many cases, profits rise, too; but there is not an *immediate* rise in the volume of retail sales. This lag is due to (a) the fact that increased profits are not at once disbursed, and (b) the fact that profits, when disbursed, take time to reach retail markets.

3. Transactions that involve foreign exchange tend toward a commercial crisis in that country which is in the most advanced stage of a business cycle.

4. The deficiencies of purchasing power discussed in this volume are partly overcome by the expan-

sion of bank loans, the proceeds of which are used by ultimate buyers of goods, before being used to produce more goods.

5. During the recovery of business from a depression, there are sometimes major reactions. Among the causes of these reactions are the following:
    - A. Too large stocks of goods on hand when the period of recovery begins.
    - B. An insufficient expansion of bank loans, the proceeds of which are spent for goods by an ultimate buyer before this money is used to pay for the creation of additional goods.
    - C. A small growth in the use of personal credit for the purchase of goods by ultimate buyers.
    - D. A small amount of forward buying and speculation.
    - E. The occurrence of events which tend to destroy confidence in the outlook and result in a restriction of orders for future delivery.
    - F. Unfavorable developments in transactions involving the use of foreign exchange.

CONCLUSIONS

The underlying causes of commercial crises are as follows:

1. *The fact that business concerns, as a whole, do not disburse an amount of money equal to the value of*

the things which they produce, in addition to all money received from outside sources.

2. *Dealers buying to keep stocks commensurate with sales, forward buying, and speculation which bring about (a) the relative overdevelopment of those industries producing tangible goods intended for the satisfaction of individual wants, and (b) an almost continuous advance in prices.*
3. *The accumulation of stocks of goods held on speculation.*
4. *The use of savings and profits to pay for the creation of goods, other than those used in the processes of production and distribution.*
5. *The lag in the flow of interest and profits into the hands of ultimate buyers on account of the intercorporate ownership of securities.*

PART II

PART II

CHAPTER I

In nearly all lines of retail trade, the individual buyer of goods desires to have immediate delivery on his purchases and is willing to pay the cost of such service. By the word "goods" we mean, throughout our discussion, *new, tangible* goods. In order to make immediate deliveries of goods, the retailer must carry stocks in trade; consequently, the wholesaler and manufacturer, in their turn, are under pressure to make prompt deliveries. This pressure to carry stocks on hand is felt, although usually to a much less degree, in lines of trade in which the purchasers of finished products are not individuals, but business concerns.

If there is no reasonable prospect of a change in price, in volume of demand, or in facility in replenishing these stocks, dealers ordinarily carry only the amount which experience has shown will provide satisfactory service to their customers. The volume of stocks on hand may be increased, however, by quantity discounts which are offered these dealers to induce them to place larger single orders. How far dealers go in making provision for immediate delivery depends on how far customers are willing to go in paying for the costs of maintaining stocks, including losses arising from depreciation and obsolescence. In order to obtain immediate delivery at all times, individual buyers in the retail trade are usually willing to pay all such costs. At the other extreme, buyers of such articles as unstandardized machines and large bridges are not willing to pay the cost of obtaining immediate delivery. They prefer to obtain price advantages by planning sufficiently far ahead to be in a position to wait for production on order. Thus they entirely eliminate stock-carrying charges on finished products, which, on such goods, might amount to several times the cost of production on order.

Present demand is not the sole factor in determining the size of stocks; for, if dealers think that the volume of trade will soon increase, or that there will be increased delays in replenishing stocks, they are likely to adopt a "forward buying" policy; that is to say, they are likely to place orders in excess of what they would otherwise place. Furthermore, if they believe that prices are likely to change, this belief may determine the size of their orders. To the extent that orders given, or purchases completed, depend on a belief on the part of the buyer that prices will increase, we regard the transaction as speculation, whether the buyer is a regular buyer or an "outsider."

Forward buying and speculation develop slowly during the early stages of a major revival in business, but grow rapidly as we approach the point of maximum business activity. Each reacts on the other. Forward buying tends to raise prices; this encourages speculation; and speculation, by temporarily absorbing a part of current production, tends to increase the delays in filling orders; and thus it stimulates further forward buying. We are here considering the interaction of forward buying and speculation when an upward trend of business is well under way. At other stages of the business cycle, the result of forward buying may be to discourage speculation. As stocks accumulated during a period of depression naturally tend to lessen dealers' demand for goods during the early stages of business revival, they tend at that time to discourage speculation.

By the time maximum productivity in industry has been attained, it is usually true that forward buying and speculation have resulted in the accumulation of large stocks of goods in all stages of production. There is, however, a limit to the physical stocks of goods, beyond which they cannot go without becoming a menace to continued productive activity, since they constitute a potential source of supply, in competition with current production, for meeting current demands of ultimate buyers. In each line of trade, the demands of ultimate buyers [1] determine the stocks which must be carried all along the line to insure the service for which they are ready to pay. The size of the stocks necessary for this purpose will increase with an increase in the volume of trade, an increase in the delays of transportation, or interruptions in manufacturing.

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[1] The "ultimate buyer" of goods is one who buys goods with the intention of using them up either in whole or in part. Both the individual consumer who buys to enjoy and the producer or distributor who buys for use are classed in this volume as ultimate buyers.

The relative output in the various lines is determined by the demands of the ultimate buyer; but the total demand of ultimate buyers which can be sustained is determined by the productive capacity of the country; for, as we shall see later, the maximum flow of sustained purchasing power, directed to the purchase of the products of industry, is limited by the flow of purchasing power received for the current products of industry. When this maximum has been reached, the stocks which sound business policy warrants in each line will depend upon the volume of the demand of ultimate buyers, the promptness of delivery, and the time elapsing from the starting-point of production to the delivery shelves of the seller of the finished product. When forward buying and speculation run riot, as they did in 1919, and orders are placed at a rate in excess of productive capacity, the delays in filling such orders give a false basis for determining the size of the stocks normally required to insure satisfactory service, and a false basis for estimating the current rate of production necessary to meet current consumption.

Even before orders exceed productive capacity, the pyramiding of orders which takes place during the upward swing of business results in a false basis for determining the size of stocks which must be held on account of delays in delivery. Thus, if a retailer notes an increase in his sales from 1000 units a month to

1100, and his stocks are commensurate with the former scale of business, he may well increase his orders placed with the wholesaler to 1200 a month. Of this increase, 100 will bring his stock back to its former size; 50 will make stocks commensurate with the increased volume of sales; and 50 will provide for an expected further increase in sales.

In the same way, the wholesaler's orders may be increased from 1000 to 1400 a month, and the manufacturer's orders for semi-finished products, from 1000 to 1800 a month. Thus, the original increase in sales of the finished product may result in a much greater increase in the size of orders to those engaged in the early stages of production. These producers may be unprepared for such an increase, with the result that there are longer delays in deliveries than will occur later. If the forward movement develops with sufficient rapidity, producers and distributors remain behind the schedule of deliveries which they could maintain under a constant volume of orders. Under present conditions, railroad congestion is an additional cause of delay in obtaining deliveries; and even relatively large stocks may prove inadequate while the "boom" lasts. When there are unusual delays in filling orders, dealers frequently place orders with several houses, hoping that one of them will make delivery in the time required. This duplication of orders, and inquiries that do not result in orders, give a false basis for determining the stocks of wholesalers and manufacturers. Furthermore, since dealers and manufacturers have little information in regard to the approximate maximum demand, it is no wonder that, when sales show a constant and substantial growth, dealers and manufacturers continue to place orders in excess of present demand. They have no means of knowing when their stocks are commensurate with the maximum demand.

Even with a constant level of prices, therefore, it is virtually certain that the forward buying movements of dealers and manufacturers, which would still take place during an upward swing of business, would carry stocks to an amount somewhat in excess of actual needs in a period of maximum activity. This would happen unless business men took intelligent action on the basis of much more nearly complete information than is now available with respect to current production, stocks on hand, and current sales. An overstocked condition might be remedied, in many lines, by a reduction of selling prices, without curtailment of orders below the point of maximum productivity; but the remedy which is actually and naturally applied is the curtailment of orders below this point and the attempt to work off the excess stock at, or near, prevailing prices. The result is a decline in industrial activity which causes a decline in general business activity.

The accumulation of excess stocks, however, would be much smaller with a stable price-level. Under present conditions, the overstocked situation, in which business as a whole is found at the close of a period of prosperity, is due far more to the instability of the general level of prices than to a lack of knowledge of the maximum productivity, or to the time required for filling orders. Speculative purchases are entirely due to anticipated price changes, and these purchases, in turn, stimulate further speculation and excessive forward buying on the part of regular dealers and manufacturers. A stable price-level would not eliminate all speculation, but it would greatly curtail such operations and thereby reduce the severity of commercial crises.

The mere existence of speculative stocks of goods, no matter how large these stocks may be, does not necessarily exert a depressive effect on business activity, as long as market prices are supported by those who believe a satisfactory profit, measured in dollars, will be realized on speculative holdings. Virtually the entire business world has always believed that there would never be a long-run advance in the price of commodities sufficient to justify holding stocks of even non-perishable and standardized goods from the high price-level of one peak of prosperity to the next. This belief has been justified by past experience; and there appears to be no likelihood that such long-run speculation will be profitable in the future. Only the sharp cyclical movements of the general price-level make widespread speculation a profitable venture.

Sooner or later such price movements are brought to a close. In any event, they must end before long because of the incapacity of our monetary system to finance a further rise in the price-level at a rate which will render unnecessary the general liquidation of speculative holdings. If, as in 1920, these holdings are unusually large, the process of liquidation becomes a wild scramble to "turn goods into money" with the accompanying precipitous drop in prices and curtailment of orders. We are then submerged in a period of widespread unemployment, which is not terminated until speculative holdings and the excessively large stocks of goods in the regular channels of trade are sold to ultimate buyers, or at least to those who hold these stocks until the next upward movement is well under way. The amount of goods temporarily taken off the market in the latter way is relatively unimportant. Stocks which were excessive for a period of maximum activity must be liquidated. Furthermore, stocks which were not excessive for such a period become excessive under the reduced demand for goods which follows a curtailment in productive operations. The greater the stocks of goods in existence at the time of the break, and the smaller the fall in prices to the ultimate buyer, the longer will the era of depression tend to be. Thus, it is clear, as many economists have pointed out, that the widespread speculation and forward buying of goods which usually occur in the upward swing of business activity may provide the primary cause of, or at least the necessary setting for, a commercial crisis.

The constant accumulation of stocks during the upward swing of business may be due in part to another cause, namely, the failure of the flow of purchasing power into the hands of ultimate buyers to keep pace with the flow of finished goods into the markets. With this cause operating, the elimination of speculation and excessive forward buying would not prevent commercial crises. To this problem we shall now direct our attention.

CHAPTER II

It is axiomatic that, as we increase the extent of the division of labor, we increase the proportion of goods produced which are intended for sale. In an economic and industrial order like our own, virtually all goods produced are for disposal to others.

It is true, furthermore, that virtually all goods sold to ultimate purchasers are paid for with money.[1] Barter and the payment for goods with such instruments as drafts on third parties and endorsed negotiable paper are so rare as to be almost negligible. Moreover, these methods of effecting the exchange of commodities have never been developed, in any appreciable degree, to sustain productive activity when the ultimate money demand for goods failed to do so. Thus, the maximum productive activity which can be sustained is almost wholly dependent upon the maximum, sustained purchasing power of the ultimate buyer as measured by his money income. Our problem, then, is to discover the relation between the ultimate value (i. e., sale price) of goods produced[2] and the purchasing power of the ultimate buyer.

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[1] The word "money" is used throughout this book to include both currency and bank deposits subject to check. This is the sense in which the term is used by Foster and Catchings in *Money* (Pollak Publication, Number 2, 1923. See Chapter II).

[2] When we speak of "the value of goods produced," we mean, unless otherwise stated, the value of goods produced *for sale to an ultimate buyer.*

Before proceeding with the problem as it exists under the complicated business structure of to-day, we shall study some phases of the problem under simple conditions. We should keep clearly in mind, however, that, without further careful analysis, no final conclusions can be drawn from these examples which will carry over to conditions as they exist. These relatively simple examples are used to fix in mind the general method of our final approach to the complicated problem and to suggest tentative conclusions.

Case I

Let us assume a self-sufficient community, composed of three individuals A, B and C. If this imaginary community seems ridiculously simple, let us keep in mind the fact that all we have to say concerning it would be equally true if we assumed a community of three groups of individuals, or of thousands of groups. Increasing the population and the volume of trade of our community would increase the difficulty of exposition, without in any way affecting the validity of our conclusions.

Let us, then, start with only three individuals, and assume that each produces goods with his own hands which he brings to the common market-place each evening; and each spends every day the receipts from his previous day's sales. Each comes to the market-place with $10 in his pocket. After having sold his daily product to the others for $5 and having spent

$5 for their products, he goes home with $10 in his pocket. If he does his buying before he does his selling, he has a minimum cash balance of $5. If there is no change in daily output, tastes, or the amount of money which each spends daily, each continues to be able to sell his daily production at constant prices. If, however, there is a change in any one of these factors with respect to one of these individuals, without a compensating change elsewhere, there is a change in the prices of the output of one or more of these producers.

Case II

Let us now assume that B devises a new product and, in order to produce it, hires D (who has previously been supported by C) at $4 a day. Let us call this enterprise the B Company, with B the sole stockholder. B is confident that he can sell D's daily output for $5. D decides to spend none of his first day's earnings, but thereafter each day to spend all his previous day's earnings. B obtains the money to pay D by borrowing from the bank which he (B) owns. The bank issues its own notes to meet the demands of the borrowers. Since B owns the bank, no interest is paid on loans to B Company.

At the close of D's first day at work, there is placed on the market a total of twenty dollars' worth of goods. The sale price of A's, B's, C's and D's product is assumed in each case to be $5; but the total purchases under the conditions assumed are only $15.

Let us assume that the deficiency of purchasing power is felt by all producers and that sales are as follows: A, B and C, each $4; B Company's sale of D's output, $3.

Let us now assume that A, B and C are so confident that they will ultimately be able to sell all their maximum daily output for $5 that they continue (1) to maintain maximum productivity; (2) to maintain the old prices; (3) to spend the full receipts of the previous day. B, likewise confident of the ultimate success of his company, pursues a consistent policy of maintaining the selling price of D's product at 125 per cent of its cost, spending each day the book profits on the previous day's sales of D's product, employing D on full time, carrying unsold goods in stock, and borrowing from the bank sufficient funds to carry out this programme.

At the end of the first day the situation is as follows:

Stocks of goods on hand at sale price	
A, B and C, each	$1
B Company	2
B Company's outstanding loans at bank	4

The second day's transactions may be summarized as follows: B Company has to pay out $4 in wages and $.60 as dividends. It has taken in only $3 on the previous day's sales, and therefore has to borrow $1.60 from the bank.

Amount spent	
A, B, C and D, each	$4
B Company's dividends, spent by B	.60

Sales for the day	
A, B and C, each	4.35
B Company	3.55
Stocks on hand at end of the day	
A, B and C, each	1.65
B Company	3.45

In the following table, is summarized the first two days' transactions and those which would follow under the same assumptions. Production and stocks are given at sale prices; and bank loans are those of B Company at the end of each day.

DAY	PRODUCTION	AMOUNT SPENT				SALES OF PRODUCT OF			PRICE OF STOCKS ON HAND		BANK LOANS
		A, B and C, each	D	B's dividends	Total	A, B and C, each	B Co.	Total	A, B and C, each	B Co.	
1	$20	$5.00	—	—	$15 00	$4 00	$3.00	$15.00	$1 00	$2.00	$4.00
2	20	4 00	$4	$0 60	16 60	4.35	3.55	16.60	1.65	3.45	5.60
3	20	4 35	4	0 71	17.76	4.65	3.81	17.76	2.00	4.64	6.76
4	20	4 65	4	0 76	18.71	4.85	4.16	18.71	2.15	5.48	7.71
5	20	4 85	4	0 83	19.38	5.00	4.38	19.38	2.15	6 10	8.38
6	20	5.00	4	0 88	19 88	5.00	4.88	19.88	2 15	6.22	8.88
7	20	5.00	4	0.98	19.98	5.00	4.98	19.98	2.15	6.25*	8.98
8	20	5.00	4	1.00	20.00	5.00	5.00	20.00	2.15	6.25	9.00
9	20	5.00	4	1.00	20 00	5 00	5.00	20.00	2.15	6.25	9.00

* Adjusted by .01 to compensate for accumulated error of this amount, due to failure to carry out previous transactions to more than two decimal places.

Thus, after eight days, business is on a stable basis; and there is nothing inherent in the situation to prevent the transactions of the eighth day from being repeated for an unlimited period, except that B Company will no longer have to increase its outstanding loans. A, B and C now sell their maximum output each day, and go home with the same amount of cash in their pockets as in the days before B Company entered the field; and B Company now finds a daily market for each day's output at a liberal margin of profit. Indeed, it is well to note that stability may be attained under the above assumptions irrespective of the margin of profit.

The establishment of the conditions existing on the ninth and succeeding days, under the assumptions made at the start, has necessitated (1) an increase of $9 in money; and (2) the accumulation of an inventory of unsold goods by B Company.

The increase of $9 in the money in circulation, which developed in the course of time, could have been calculated at the start of the problem. If A, B and C do not permanently change the price of their products, or the amount of money on hand at the start of each day, the additional cash on hand each morning, required by the community to finance D's output, is as follows: B Company $5 ($4 for pay-roll and $1 for dividends), and $4 in D's pocket as a minimum cash balance.

By conducting "clearance sales," A, B and C could liquidate their inventory of goods without a permanent change in prices, or in the circuit velocity of money[1] passing through their hands. If, however, there is to be no permanent change in the above factors, and the books of B Company are to show no deficit, B Company must maintain its inventory at $6.25 (sale price), or $5 (cost price), and its bank loans at $9. This necessity is made clear by the Balance Sheet of B Company on the morning of the ninth day:

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[1] Cf. "The Circuit Flow of Money," *American Economic Review*, September, 1922; and "The Circuit Velocity of Money," *American Economic Review*, June, 1923.

Assets		Liabilities and Capital	
Cash	$5	Loans	$9
Merchandise	5	Dividends declared	1
	$10		$10

If, changing our original conditions, we assume that B Company sells on one day's credit, the Company may be able to dispose of its inventory at regular prices and thereafter exhibit the following daily balance sheet:

Assets		Liabilities and Capital	
Cash	$5	Loans	$9
Accounts Receivable	5	Dividends declared	1
	$10		$10

In any event, if the prior level of prices and circuit velocity of money passing through the hands of A, B and C are to remain unchanged, bank loans must be maintained at $9.

We have assumed that the full responsibility for increasing the supply of money rested with B Company. Under the apportionment of sales assumed above, B Company, in order to continue in full operation and pay out all book profits of the previous day's sales, had to expand its loans up to the required amount. It is important to note that, although there was, at the start, a relatively large deficiency of purchasing power daily coming to the markets, as compared with the daily addition of goods, this deficiency is gradually overcome by the policy pursued by B Company. The accumulation of unsold goods resulting from this deficiency would have been greater, and the time taken to reach the point where daily sales equaled daily production would have been greater, if D had carried a larger cash balance, or if the profits of B Company had not reached the markets until the second or third day after they were realized.

On the other hand, if the products of D's labor had reached the markets on the day after they were produced, instead of the same day, the accumulation of finished goods and the time interval would have been less. Under certain conditions, B can obtain the money to finance his company by drawing on his cash balance and those of A and C. If each is satisfied with a cash balance of $7 each morning, instead of the customary $10, no increase in the money in circulation is required to finance B Company, and no change necessarily takes place in the prices of the products of A, B or C. In this case, there is an increase in the rapidity with which the money of the community circulates against goods: in other words, an increase in the circuit velocity of money. Mathematically, it is an increase in the average circuit velocity of money (expressed in relation to a year) from 150 to 200. For, under the original conditions, with only A, B and C in the community, the daily purchases are $15; and, therefore, the yearly purchases are about $4500. With $30 of money in circulation, this means that on the average each dollar is used $\frac{4500}{30}$ or 150 times a year for the purchase of goods; whereas, under the above assumption of daily sales of $20 and the same amount of money in circulation, the average circuit velocity of money is $\frac{20 \times 300}{30}$ or 200 times a year. Under the above conditions, A, B and C accumulate inventories of unsold goods, while B Company is building up its sales. Such an accumulation might not take place, as B Company alone might suffer from the deficiency in purchasing power.

Under these conditions, the summary of daily transactions would be as follows:

DAY	PRODUCTION	AMOUNT SPENT				SALES OF PRODUCT OF			PRICE OF STOCKS ON HAND		BANK LOANS*
		A, B and C, each	D	B's dividends	Total	A, B and C, each	B Co.	Total	A, B and C, each	B Co.	
1	$20	$5	—	—	$15.00	$5	—	$15.00	—	$5.00	$4.00
2	20	5	$4	—	19.00	5	$4.00	19.00	—	6.00	8.00
3	20	5	4	$0.80	19.80	5	4.80	19.80	—	6.20	8.80
4	20	5	4	0.96	19.96	5	4.96	19.96	—	6.24	8.96
5	20	5	4	.99	19.99	5	4.99	19.99	—	6.25	8.99
6	20	5	4	1.00	20.00	5	5.00	20.00	—	6.25	9.00
7	20	5	4	1.00	20.00	5	5.00	20.00	—	6.25	9.00

* In the last two columns are shown the sale price of stocks on hand and the bank loans of B Company at the end of each day.

The amount of B Company's unsold stock of goods and the amount it must ultimately borrow, under the assumptions, remain as before; but the balance between production and sales is reached at an earlier date.

If B Company succeeds in selling D's full output on the first day, and each day thereafter, at the established price of $5, there is no reason why the Company need expand its loans beyond the $4 borrowed on the first day. The receipts for each day cover operating expense and dividend requirements for the following day. In this case, if A, B and C continue to spend each day the proceeds of the previous day's sales, they cannot all continue to sell their daily output at the old price of $5. In order to maintain this price, with the same volume of trade, they must spend enough more than they earn for a day or two to keep the total daily purchases at $20. This requires one or more of them to reduce the amount of money that he carries home each night. In other words, there must be an increase in the circuit velocity of the money that passes through their hands. Under these conditions, even though B Company increases the amount of money in circulation by its full financial requirements, it does not increase it enough to prevent a permanent change in one or more of the following factors: (1) prices; (2) production of A, B and C; (3) the circuit velocity of money.

Case III

Let us now return to the original community composed of A, B and C. Let us assume that E, a son of

A, desires to become self-supporting, and offers his services as a comedian. We may summarize what might occur as follows:

First day	
Expenditures for goods	
A, B and C, each	$4
Expenditures for services of E	
A, B and C, each	1
Sales of goods	
A, B and C, each	4
Unsold inventories	
A, B and C, each	1

We assume that E accumulates and holds $3 as a minimum cash balance.

Second day	
Expenditures for goods	
A, B and C, each	$3
E	3
Expenditures for services	
A, B and C, each	1
Sales of goods	
A, B and C, each	4
Unsold inventories	
A, B and C, each	2

It is evident that if each continues to spend the same amount as on the second day and in the same manner, A, B and C must reduce the selling price of their daily output to $4 or continue to accumulate inventories.

In Case III, the need for an increased amount of money arises from an increase in the total volume of goods and services offered for sale, rather than from an increase in the production of goods alone. The money of the community is exchanged at the same rate as before the advent of E (i.e., fifteen of the thirty dollars in circulation are spent for some purpose each day, leaving the velocity of circulation unchanged); but the *circuit* velocity (i.e., the rate at which money is exchanged against *goods*) has decreased.[1] Therefore, if production and sales (in units of goods) are to be maintained at the former level, prices must be reduced.

It should be noted, however, that since A, B and C go to the markets every night, each with $10 in his pocket, it is possible for them to maintain the old prices for their products by temporarily abandoning their policy of limiting expenditures to the receipts of the previous day. Thus, the following transactions might occur:

First day	
Expenditures for goods	
A, B and C, each	$5
Expenditures for services of E	
A, B and C, each	1
Sales of goods	
A, B and C, each	5
No unsold goods	

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[1] Before the advent of E as a producer of services, the velocity of circulation of money in transactions of all kinds was $\frac{15 \times 300}{30}$ or 150; and the circuit velocity was the same. On the second day after the advent of E, the velocity of circulation remains 150; but the *circuit* velocity of money is decreased to $\frac{12 \times 300}{30}$ or 120.

Second day	
Expenditures for goods	
A, B and C, each	$4
E	3
Expenditures for services	
A, B and C, each	1
Sales of goods	
A, B and C, each	5
No unsold goods	

The transactions of the second day may be repeated for any number of days.

The circuit velocity of money has been maintained at 150 by increasing the velocity of circulation from 150 to $\frac{18\times300}{30}$ or 180. Expressing the same thing in other terms, we note that, under the original conditions, A, B and C each came to market with $10 in his pocket and spent $5; whereas each now comes to market with but $9 and still spends $5.

This shows that, if the volume of money in circulation remains constant, there is a limit to the increase in the number of new productive members of the community beyond which it cannot go without reducing prices or output. If there is to be no change in prices or in the customary cash balances and expenditures of A, B and C, the advent of E into the business community requires an increase of $3 in the money in circulation. This is the amount which we assume E has on hand each morning.

Case IV

If E enters the business community at the same time as D, and if they keep minimum cash balances of $3 and $4 respectively, B must increase his borrowings from the bank to $12, in order to create a daily demand for the full output of goods at the established prices, without changing the minimum cash balances of A, B and C, or the speed with which money passes through their hands. Under these conditions, it will take longer for B Company's daily sales to equal its daily output. But, as we have seen above, provided this company is the last one in the community to reach this point, and it persists in its policy of running at full capacity and paying out as dividends the full earnings of the previous day, the time comes when the daily purchases equal the daily output at the established prices.

This conclusion is based upon an assumption implied in the figures, but not specifically stated, namely, that, when the total monetary demand for goods equals $20 a day, the daily output of A, B, C and B Company will each sell for $5. The fact that daily sales, during the building-up period, lag behind daily production, is due to two causes: (1) the fact that wages paid to D, or fees paid to E, are not spent the day they are received; in other words, the fact that D and E do not make their daily expenditures equal to their daily receipts until they have accumulated a reserve; and (2) the fact that dividends are not paid until after they have been realized, which, under the conditions assumed for this community, means the following day.

Let us now discard the important assumptions that B Company pays out as dividends the full earnings of the previous day and that these dividends are spent by B the day they are received. Let us assume, instead, that B Company pays out only one half its current earnings, thus reducing the amounts which it would have to borrow from the bank in the early stages of its career in order to meet daily cash requirements. Let us assume, in other words, that the company decides not to finance the growth of its business entirely out of bank loans, but in part from profits.

All other conditions remaining as before, the time will never come when A, B, C and B Company are able to sell their daily output for $5 each; because, even though A, B and C continue to receive $5 each for their products and pay out the same amount, if B Company does not pay out $5 daily, the total daily purchases cannot reach $20. Furthermore, as long as B Company disburses each day an amount less than the sale price of its output, there is a constant accumulation of unsold goods in the hands of one or more producers. Possibly we can make this clear if we illustrate these processes graphically.

As pictured in Diagram 1, the business of the community is in a state of equilibrium. Each day twenty dollars' worth of goods is placed upon the market, twenty dollars' worth is purchased, and each indi-

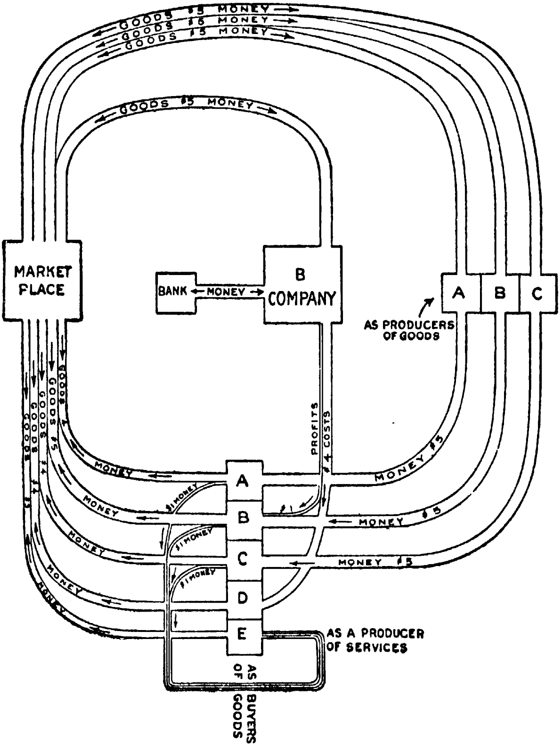

Diagram I

vidual's daily disbursements are equal to his daily receipts. Before the advent of B Company and D and E, the daily trade amounted to $15, and the business community was in a similar state of equilibrium.

If, on a given day, B Company and E enter business and receive the amounts indicated, the condition pictured above does not obtain; since the outbound flow of money from D and E, and the increase of $1 in the inbound and outbound flow of money with respect to B (on account of profits), do not begin on the same day. Consequently, unsold goods are left on the market.

But if (1) B Company continues to operate full time and to pay dividends equal to the full earnings of the previous day; and (2) A, B and C continue to spend the full receipts of the previous day and maintain prices on their goods; and (3) D and E henceforth spend their previous day's earnings; and (4) B Company is the last producer to succeed in selling its full daily output at the established price of $5, eventually the flow of goods and money will be as pictured in Diagram 1. This conclusion is based on the assumption, stated above, that, when the total daily purchases of goods reach $20, the relative demand for goods is such that A, B, C and B Company each receive $5 for their daily output.

If, on the other hand, B Company pays out but one half its previous day's profits, and other assumptions remain as above, a study of the diagram in connection with the previous mathematical analysis shows that the time will never come when the daily purchases of the community reach $20. There will always be a daily accumulation of unsold goods.

Assuming that the condition pictured above has been reached and production remains constant, let us turn to a consideration of the monetary conditions under which it will be maintained.

1. A study of the diagram brings out the important fact that the maximum, sustained, daily buying power for goods is equal to the daily amount received from the sale of goods.

2. E does not obtain his purchasing power from the sale of goods, but from those who have made sales of goods, and their purchasing power, which might have been used for goods, is reduced by the amount that E's is increased. No matter how many individuals in the community receive their income from the sale of services to producers of goods or other services, the sustained, daily buying power for goods is equal to the daily amount received from the daily sale of goods.

3. Temporarily, the total purchases in dollars may be greater than the previous day's sales. This is the case (other factors remaining unchanged) if bank loans are increased and the proceeds spent in the market-place, or if one or more individuals spend more than their previous day's receipts by drawing on their unused, minimum cash balances; but neither of these possibilities can permanently make daily purchases exceed the prior day's sales, without a constant increase in the money in circulation.

4. If B Company decides to use any part of its profits for the retirement of some of its loans, the purchasing power received by individuals is less than the amount realized on the previous day's

sales. This means a decrease in sales as long as B Company continues to pay off loans and each individual continues to spend the receipts of the previous day. The accumulation of larger minimum cash balances by individuals has the same effect.

5. The total outstanding loans which B Company must make and maintain under the above assumptions amount to $12. We may, however, assume that one or more individuals make loans at the bank in order to buy more goods. If such loans are made to the extent of $3, B Company can retire loans to this amount out of profits, without necessitating a change in the speed with which money passes through the hands of the individuals of the community, or a change in the total daily sales, or in their distribution. Such individual loans, however, must be constantly maintained at this amount, if daily sales are to be held at $20 without involving a change in prices or in the average rapidity with which money is used to purchase goods.

In order to reach and maintain the condition pictured in Diagram 1, B Company must continue to disburse the full profits accruing from the previous day's sales. In the diagram, we pictured all these profits as going to B, who spent them for goods for his individual use. It is not necessary, however, that B Company should make this particular distribution of profits. If, for instance, B Company spends one half its profits for capital equipment on the same day that B would have spent it had he received the money, and pays the other half to B as before, the total daily purchases remain exactly as before. There may be a change in the character of the demand for goods, which involves a corresponding change in the character of goods produced by A, B and C and possibly by B Company; but there is not necessarily a change in the relation between total daily purchases and the daily value of goods produced. Maximum productivity can be attained and maintained just as readily as under the assumption that all profits are spent by stockholder B.

Or, again, the individuals in the community may subscribe a total of $5 each morning to improvement bonds issued by the community. If this money is spent each evening for goods, it does not change the total amount which would otherwise be spent for goods. Probably this would change the character of the demand for goods, and thus necessitate a change in production schedules; but there is nothing in this assumption, or in the previous one regarding the distribution of profits, that prevents the attainment and continuity of a daily market for the maximum daily production of the community at a constant level of prices. There cannot be a constant level of prices without a constant balance between supply and demand. If, for any reason, there is a change in output without a corresponding change in demand, or *vice versa*, prices change; and, until the business of the community becomes adjusted to the new condition,, there may be a daily balance of unsold goods.

We have discussed the need for an increased amount of money in circulation when new members of the business community are added, if prices or the monetary habits of individuals are not to be changed. Under the conditions assumed for the simple community, this increase, due to the advent of D and E, had to be $12. Now, there is no reason to expect that E will borrow from the bank. In the first place, unlike B Company, he does not have to make cash advances. Although he must obtain the necessities of life until he becomes self-supporting, he seeks continued support from his parents rather than a loan from the bank. In the second place, he has not the customary security for the loan. Once the day is passed, there is nothing left of E's efforts to sell on the following day. On the other hand, even if B Company fails to sell its product on the day it is produced, the bank has something which it may be able to sell on the following day for an amount sufficient to cover its advances. We are therefore safe in assuming that nearly all additions to the cash of such a community must come from loans made by those engaged in the organized production of goods.

If the business of the community is on a cash basis, and B Company furnishes all the additional cash required by the employment of D and the advent of E, the company exhibits the following balance sheet on each morning after its loans have reached the required total:

Assets		Liabilities and Capital	
Cash	$5	Loans	$12
Goods	8	Dividends declared	1
	$13		$13

Under the trading conditions in this community, however, B Company would probably regard a constant inventory of $8 as unnecessary. In fact, it might succeed in selling its full daily output before an inventory of the value of $8 was accumulated. In either event, the $12 in additional money required by the community would not be forthcoming. Furthermore, it is possible that, with an addition to the money supply of less than $12, the price adjustments might result in a selling price of $4.50 for B Company's daily output. But if D was unwilling to work for less than $4 a day, B Company might not have a sufficient margin of profit to justify continued operations, until D was willing to work for less.

The foregoing analysis of the economic life of a simple community suggests the following tentative conclusions for economic conditions as they actually exist:

1. A permanent increase in the amount of goods or services produced for sale to others requires an additional amount of money in circulation if the existing price-level and the monetary habits of individuals are not to be permanently changed.

2. The sustained sale of the full daily output of goods at constant prices requires the daily disbursement, by producers of goods, for purposes other than

the retirement of bank loans, of an amount equal to the sale price of the daily output.

3. Even if producers of goods increase their disbursements at the same time and by the same amount as the increase in the total sale price of their output, this increase in purchasing power may not reach the markets as soon as the goods; and there may be an accumulation of unsold goods until the new flow of money reaches its full volume on the retail markets.

4. Since producers of goods for a profit do not disburse this profit at the time the goods are produced, but only after the goods have been sold, they do not at the start of increased production disburse an amount equal to the sale price of the goods. If, however, they adopt a consistent policy of disbursing the full profits on such goods as they do sell, the time will come when the daily sales of commodities equal the daily output, provided there is not a continuous decrease in the average rapidity with which money is used to purchase goods; in other words, a decrease in the circuit velocity of money. Such a decrease may be the result of (1) the accumulation by individuals of constantly larger cash balances; or (2) a constant increase in the proportion of individual incomes spent for purposes other than the purchase of goods; or (3) a constant increase in the number of hands through which goods pass on the way to the ultimate buyer.

5. The temporary lag of the scale of profits behind the scale of production, and the readjustments of the relative value of goods following the introduction of

new kinds of goods, are liable to cause an accumulation of unsold goods; but the time will come when daily purchases equal daily maximum output, provided (1) all profits realized are promptly disbursed (bank loans being increased, if necessary, for this purpose); (2) maximum production is maintained; (3) there is no maladjustment in the relative volume of the different kinds of goods produced; (4) prices are maintained.

6. Since producers of services and other individuals can be counted on to make and maintain some increase in bank loans for the purpose of increasing their purchases of goods for their own use, at the time additional goods or services are offered for sale, the entire burden of increasing the supply of money at such times in order to avoid a decrease in the price-level is not placed upon producers and distributors of goods. The bulk of the burden, however, is so placed.

7. Even when money is made "elastic" by a commercial banking system, there is no assurance that producers of goods will borrow the full amount required to finance the production and distribution of the additional goods which they may put upon the market, together with the increased need for cash to finance the increased volume of services which usually accompanies an increase in the production of goods, without involving a drop in the general price-level. In fact, the increase in money may not be sufficient to create, directly or indirectly, a sufficient demand for the borrower's own goods to enable him to sell his

goods at a margin of profit sufficient to warrant continued production at the existing level of costs. In other words, there is no necessary correlation between the amount of money which business concerns borrow on account of increased production, and the increased amount of money which the community as a whole requires, on account of the increased business accompanying this increased production, in order to maintain the existing level of prices.

8. A daily balance between production and sales to ultimate buyers may be maintained irrespective of the size or rate of profit, or of the amount of savings and undivided profits, which are invested in new capital equipment.

With the foregoing analysis of our imaginary community in mind, we may now consider the business of this country under actual conditions.

CHAPTER III

DIAGRAM 2 is presented to assist the imagination in picturing the flow of money through the many channels in the complicated economic order of the present day. The rectangles (except those under the general heading of Stocks) represent the cash boxes of the groups indicated. Money passes through the Stock rectangles without stopping. The diagram does not indicate the amount in the cash boxes of the various groups at any given time. As indicated by the arrows, all money received by each group is pictured as coming in on one side of the rectangles, and all money paid out as leaving on the opposite side.

The widths of the channels are supposed to be proportional to the amount of money passing through them in any given period of time, say one month. The widths of this diagram, however, are merely guesses: no information is available by which the relative widths of these channels can be determined with accuracy. Doubtless, many of the narrower channels, if they were accurately drawn to the general scale of the diagram, would appear as single lines; but this would be confusing. The exaggeration in the size of the smaller channels upsets the relationships which should appear between some of the channels.

In the analysis and conclusion which follow, however, no use is made of the relative widths shown in this diagram. Nor does the fact that the diagram is incomplete, even with respect to the channels between the groups, affect the validity of our argument. It does not matter, for instance, that all raw materials and semi-finished materials are shown as passing directly from producer to producer, whereas, in many cases, these goods pass through the hands of distributors. To have made the diagram complete in this respect, as well as in others that will occur to any careful student, would have made it so complex as to bewilder rather than to assist the imagination. No doubt most readers will find the diagram sufficiently complex as it is. In any event, we shall find that, no matter how intricate a system of channels would be required to represent all types of monetary transactions, we can reach certain sound conclusions with the aid of this somewhat simplified diagram.

In order to become familiar with the diagram, let us note some of the aspects it portrays of our modern economic structure. Possibly the most noticeable is the fact that the disposition of the money received by individuals almost entirely determines the relative importance of the various classes of economic activity.

The channels passing out on the left side of the Individuals rectangle do not suggest all the uses of an individual's money. For example, the amounts directly paid by one individual to another in exchange for medical, legal and personal services, form a substantial total; yet such transactions, except in the case of purchases of the current production of goods of one individual by another, are not shown in the diagram.

For purposes which will appear later, the individual producer of goods, such as a truck gardener, is here pictured in two capacities: as a producer of goods, and as a buyer of goods or services for the satisfaction of his own wants. Except for money which he uses for meeting his business expenses on account of materials, taxes and insurance, the money that he receives for his product is shown as passing from the Producer rectangle to the Individuals rectangle, although there is no exchange of money involved. The money which he receives directly from another individual, in exchange for the current product of his labor, may be considered as passing through the Distributors rectangle "in bond." All other direct exchanges of money between individuals are supposed to take place within the Individuals rectangle, as suggested by the eddying arrows.

The channel leading from Individuals to Insurance Companies represents premiums paid. Of the two channels leading back to Individuals, the narrower represents the disbursements of these companies on account of wages, salaries, rent, interest and profits: the wider of the channels represents payments to beneficiaries.

We have shown no channels leading from Insurance Companies to other premium-paying groups. This omission was made because the amounts which business concerns receive from Insurance Companies do not represent income (as it is ordinarily considered by Individuals in the case of death, or accident), but simply make good what would otherwise appear as a loss on their balance sheets. To have shown money received from Insurance Companies by business concerns, on account of losses sustained, would have made it appear on the diagram as a source of income, comparable with money received from the sale of products. This would have been confusing and it would not have modified the final conclusions. We should keep in mind, however, that a part of the money in circulation is in constant use to settle losses on insured risks. The channel leading from business concerns to Insurance Companies is not composed entirely of insurance premiums. A part of this channel represents interest or dividends which are paid on securities held by Insurance Companies.

Still further to avoid complications in the diagram, we have not shown channels to represent interest and dividends which are paid to Investment Houses and Savings Banks, on account of the securities of business concerns which they hold. We may, however, follow such payments in our imagination by assuming that a small part of the channels leading from business concerns to Individuals represents this money, and that this money passes through the Individuals rectangle "in bond," and becomes a part of the channel leading from Individuals to Investment Houses and Savings Banks.

The wider channel leading from the latter rectangle to the former represents: (1) interest and profits paid to individuals on account of interest and profit on the securities which these companies hold, and (2) the proceeds of securities which these companies sell on behalf of individuals. In the case of Savings Banks, this means savings or interest withdrawn.

In another respect, the diagram fails to show monetary transactions of some magnitude. There are no channels showing the receipt of money, by various groups of business concerns, on account of interest or dividends on securities issued by other business groups. We have just suggested how these types of transactions can be pictured in the case of Investment Houses and Insurance Companies. It is not so easy to picture the process of the inter-business payment of interest and dividends. However, the simplified diagram serves better than a complete diagram to bring out the conclusion that, if the volume of money in circulation remains constant, and if Individuals are to receive a constant flow of money of the amount pictured in the diagram, business concerns must pay to stockholders at a constant rate the full amount of all returns on their investments.

Furthermore, other factors being the same, the greater the extent of inter-company ownership of securities, the greater is the amount of money needed in circulation to maintain a given money income for individuals. If, to the amount of money which our diagram suggests as being in circulation, there were added enough to fill up all channels of inter-company payments, the total interest and dividends paid to Individuals would be the same as pictured, regardless of the extent of the inter-company ownership of securities, provided all companies paid out to their own security-holders all money income received from such sources. Except for Insurance Companies and Investment Houses and Savings Banks, all channels leading to Individuals represent money paid to individuals on account of wages, fees, bonuses, gifts, pensions, interest, rent, royalties, profit, or a return of money invested in business.

As another means of simplifying the diagram, all money received by any group is pictured as remaining in cash boxes until disbursed: the depositing of money in Commercial Banks and the withdrawing of money are not shown. The flow of money to these banks, as pictured, is the amount they receive as interest on loans and investments. These banks and the Mint, as sources of an increased volume of money, have no place in this diagram, because the diagram represents a stabilized flow of money. Each group is pictured as paying out money at the rate at which it is received; and the volume of money in circulation is assumed to be constant. It is axiomatic that as long as these two conditions hold, and the purposes for which money is disbursed remain as shown, there is no change in the volume of money passing through the hands of each group, in successive intervals of a given period of time. Actually, in no two successive intervals does the flow of money remain the same in all respects. In Diagram 2 we have shown a stabilized condition, because changing conditions cannot be shown in a single diagram—a moving picture is required; and because the effect of changes in various factors can be imagined more readily in a picture of stabilized conditions than in a picture of conditions that are already out of balance.

As this diagram is a graphic representation of the flow of money, it also shows the direction of the flow of things for which money is exchanged. Thus, all channels which carry a flow of money to a Stock, a Distributor, or a Producer rectangle may be considered as carrying a flow of goods in the opposite direction. During a period of changing business activity, the widths of the goods channels are not the same as the widths of the corresponding money channels. We may assume, however, for our purpose, that all goods and service channels are of exactly the same width as the corresponding money channels. The diagram then represents a condition of complete stability. It is not at all likely that we could have stability of any one of three factors (money, goods and services) unless we had stability of the other two.

This diagram may represent any given stage of economic activity. For the present, let us assume that it represents employment at the maximum which we now attain at times of greatest activity. What, then, are the conditions, shown or implied by the diagram, which must be fulfilled if the same diagram is to represent the flow of money, goods and services in successive intervals of time?

We have already noted that this diagram implies a constant amount of money in circulation, and the disbursement of money by all groups at the rate it is received, and for the same purposes as in the preceding period. The diagram also implies that the total value of services rendered in a given interval of time (say, one year) is equal to the money received during that time. Since the amount disbursed is the same as that received, the diagram implies the disbursement of an amount equal to the total sale price of the services rendered, in addition to an amount equal to the sum of all money received from other sources.

The diagram also implies the fulfillment of the following conditions:

1. The total value of goods produced by any group in a year equals the money received by that group in a year. Consequently, the money disbursed (exclusive of that disbursed on account of receipts from sources other than the sale of products) equals the total sale price of the goods produced in that time. The same conditions are implied with respect to distributors.

2. All money disbursed by producers and distributors to those outside these industries is used for the purchase of goods to be used up by the buyer (or his agents), before this money is again used to pay for the production and distribution of goods.

3. Ultimate payment for all goods sold and services rendered is made with money, and therefore no goods or services are given away by business concerns or

sold to those who will either never pay for them, or pay for them with something other than money.

4. No interruption to the even flow of goods and money is suffered on account of the failure of producers or distributors to obtain a sufficient margin of profit to enable and induce them to continue in business.

5. No part of the goods channels leading from Distributor's Stock of Finished Goods for use in Business and Industry represents the purchase of capital goods, which will involve an increase in the total value (i.e., total final sale price) of goods or services produced each year, in order to yield a satisfactory return and thus induce the continued purchase of such goods on the same scale as indicated in the diagram.

6. The total value of goods imported equals the total value exported.

In order to maintain business and industry at substantially the point of maximum activity, it is not essential that all the above conditions, which are shown or implied on the diagram, be strictly fulfilled.

Upon these assumptions, our argument will proceed; but many qualifications and exceptions will be noted from time to time.

CHAPTER IV

We shall now examine in detail one of the above requirements for business stability which has a direct and important bearing on the relation of purchasing power to the value of goods produced. We refer to the requirement that *the current disbursements*[1] *of money by producers and distributors of goods must equal the total sale price of the goods which they produce or distribute (and for which they must receive money in payment*[2]*) in addition to the current disbursement of all money received from other sources.*

When business has reached a state of maximum activity, to what extent is the above requirement fulfilled?

Let us first consider the qualifying phrase that disbursements must be made in money. A business debt, say, for the purchase of goods, is sometimes settled by a draft on a third party, or by an indorsed negotiable instrument. If such credit instruments are paid when due, and meanwhile are used in place of money to effect final payments for business obligations, and do not curtail the buying power of those who receive them, such instruments are effective substitutes for money in maintaining the required flow of purchasing power, and must be included in any study of the volume of money required for carrying on business at a given price-level. To include the use of credit instruments as a substitute for money, we might amend our diagram as follows:

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[1] For the purposes of this discussion, the payment of a bank loan is not classed as a "disbursement of money."

[2] What is involved in this parenthetical phrase will appear below under a discussion of Bad Debts.

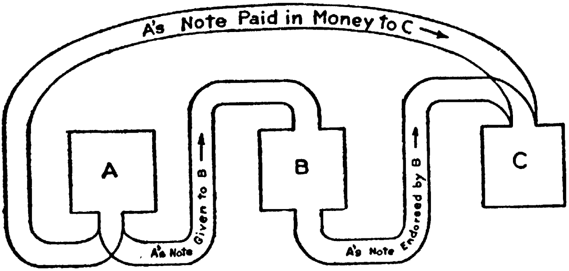

DIAGRAM 3

We may assume that part of the money channels leading from one business group to another represents negotiable instruments; and we may insert, in our imagination, a money channel of the same width leading from the payer group to the group to which the money is paid in final settlement of the instrument. In Diagram 3, the net result, as far as the flow of purchasing power is concerned, is the same as if the money which A pays to C had passed through B's hands. We conclude that our requirement should be qualified to read: "the current disbursements of money, *or effective substitutes therefor*, by producers and distributors of goods must equal the total sale price of the goods which they produce or distribute, in addition to the current disbursement of all money received from other sources."[1]

Next, we may consider what is implied by the word "current." Diagram 2 gives no indication of the time intervening between the contraction of a debt and its discharge by the payment of money. In fact, provided business is stable, the diagram represents equally well the conduct of all business on a cash basis and on a basis of six months' credit. This time element in the payment of debts and the distribution of profits is of great importance, as we shall see later, because of its effect on the length of time intervening between a period of depression and one of maximum activity, and on the possibility of reaching the point of maximum activity. But we are now discussing the conditions which must obtain if business is to be *stabilized* at maximum activity.

From Diagram 2, we conclude that business is not in a stabilized condition unless producers and distributors of goods disburse money, or effective substitutes for money, equal to the sale price of goods which they produce or distribute. This does not mean that there must be a daily, weekly, or even monthly balance between these two quantities. In many lines, business is now organized to take care of the seasonal nature of production and distribution. In such lines, the value of finished products completed in a month may far exceed the money disbursed during that month, and *vice versa* in other months. If, however, a given line of business as a whole fails to disburse, during a complete seasonal period, an amount of money equal to the total sale price of the goods which it places on the market, the result is an increase in the stock of unsold goods in this or other lines. Thus business is headed for a reaction. By the word "current," then, we mean during a full seasonal period in each line of business.

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[1] We may note that credit instruments, as effective substitutes for money, have scarcely any place in final settlements between business concerns and individuals, since individuals can rarely use them in making final settlements of personal debts.

It is possible that the changes in trade methods might be constantly in the direction of requiring larger and larger stocks on hand and that this requirement might offset the deficiency between money disbursed and goods produced. If so, this deficiency could continue for an unlimited time, without causing a decrease in business activity. Furthermore, it is possible for a deficiency to occur in one year and be made up in the following year, without causing a reaction, if the surplus is not large enough to affect the scale of business operations. However, if such a deficiency persisted season after season, it would lead ultimately to clearance sales which might lead to a general reduction in prices and the restriction of orders to producers which, in turn, would be likely to mean a major reaction in business.

Let us now consider what is involved in the term "value," which we have previously defined as final sale price. The requirement for business stability, stated above, does not necessitate the sale of all units of goods at the same prices. The producer may sell the bulk of his line at the so-called full price while the season is on, and then close out the remainder at mark-down sales. It will fulfill our present requirements for stability if the total disbursements for the season by producers equal the total sale price of their output at prices which they are willing to accept, from time to time, and which will net them, on the total season's business, a sufficient profit to induce them to continue business at the same scale. The same may be said of distributors.

There is still another factor in connection with the disbursement of money which we should consider before making a restatement of the requirement for business stability which we have been considering. It appears to many business concerns, particularly among manufacturers and wholesalers, that it is not to their financial advantage to raise enough money through the sale of stocks and bonds to enable them to "carry on" when business is active. At such times they borrow from the banks. Many other concerns, whose business is of a highly seasonal nature, have to turn to the banks for seasonal loans even when business as a whole is at a low ebb. Only a small part of the demand for loans arises from the need of larger cash balances. The bulk of the demand arises from the fact that many expenses of operation have to be met with money long before the company is paid for the goods for which the expense was incurred. This lag between income and expense is due, in part, to the time taken to produce and distribute goods, and, in part, to the fact that in some lines of business it is customary to grant longer credits to customers than obtain between the company and its creditors. In the case, then, of those concerns which are capitalized with money resources below their maximum requirements, temporary loans must be obtained from some source; and in virtually every instance this means the banks.

Now, it is not at all unusual for a bank to decline to lend money on the strength of Accounts Receivable where it would be willing to do so on the promissory notes of the same debtors. This banking practice is entirely sound for reasons which we need not discuss. It is the fact, and not the reason for it, that adds a qualification to our original statement in regard to disbursements. It is not sufficient for business stability that all disbursements shall be made by the end of the season. In many cases, the creditors cannot "carry on" unless they are given written assurances that their claims will be met with money on a specified date.

The practice of discounting promissory notes raises still another point in regard to the current payment of expenses with money. In Diagram 2, we have pictured bank discount as always having been paid in money by the discounter, because the actual short-circuit channels would have been confusing; but the discounter of a note never pays the discount in money. It is paid to the bank in money by the payer of the note. It is another case of the short-circuiting of money. The discounter of the note has paid his expense of discount by the use of an effective substitute for money — a part of the face of the note which he indorses to the bank.

With the foregoing analysis and explanation of terms in mind, we may now restate one group of the requirements for business stability as follows:

Other factors remaining unchanged, if there is no increase in the size of stocks regarded as normal, the current disbursements of money (or effective substitutes for money) by producers of goods as a whole cannot be persistently less than the total value (at their sale price) of the goods which they produce, and for which they must receive payment in money (or effective substitutes therefor); and, in addition, they must currently disburse all receipts of money from sources other than the sale of their output. If there is an increase in the size of normal stocks due to changes in business customs or procedure, a deficiency in purchasing power disbursed cannot be persistently in excess of the inventory value of such increases in stock.

Exactly similar conditions must prevail with respect to the disbursements by distributors of goods and by producers of services and intangible goods, except that, in the latter cases, the disbursements must equal the value of product *sold,* since their products are not subject to storage. The failure of any group to meet these requirements affects all groups.

CHAPTER V

WE shall now examine the extent to which these requirements (without which there will not be equality between the total number of dollars added to the flow of purchasing power leading to the ultimate buyer and the total final sale price of goods produced) are met at times when business is in full swing. First, we shall consider organized producers of goods who receive no money from sources other than the sale of their product, and whose cash on hand represents money collected from past sales of products. We assume that the producers are not reducing their inventories. Under these conditions, all continued disbursements of money represent the direct or indirect payment of either a cost of operation or a disposition of profits. Therefore, if disbursements equal the value of goods produced, it is because their disbursements on account of costs and profits equal this amount. If all goods produced are sold, the sum of all costs and profits equals the value (i.e., sale price) of the goods produced; and, therefore, all costs and profits must involve the distribution of an equal amount of money, if the requirements for stability are to be fulfilled. If all costs and profits do not involve the disbursement of an equal amount of money, there is a deficiency equal to the difference between the value of the goods produced and the money disbursed. The deficiency is still greater if not all goods produced are sold, since unrealized profits are rarely disbursed.

Manufacturers' costs of operation may be divided into the following groups:

1. Wages, Salaries, Bonuses, Premiums, Commissions, Royalties, Interest and Discount, Rent, Taxes and Transportation.
2. Insurance.
3. Bad Debts, Trade Discounts, and Goods Given Away.
4. Materials and Supplies.
5. Depreciation and Obsolescence.

1. Wages, Salaries, Bonuses, Premiums, Commissions, Royalties, Interest and Discount, Rent, Taxes and Transportation

This group is composed of items which are virtually always paid [1] when due. Indeed, most of them must be paid currently with money, or concerns cannot continue to do business.

2. Insurance

This item must be paid when due, but many insurance policies are for longer terms than one season in the industry in question. In such cases, it is customary and proper to prorate the cost of the insurance over the full life of the policy. This means, in the case of a five-year policy, that there are no disbursements on account of insurance in four out of five fiscal years, with disbursements every fifth year of five times the amount which is charged as a cost for that year. For the next four years, the same costs for insurance are charged against the income for that year, but no disbursements are made. If it were true that there were any general coincidence in the renewals of long-term insurance policies, this would produce irregularities in the flow of money which might be serious enough to initiate a major reaction in business. There is no reason, however, why there should be any large variations in the annual amount of premiums paid on long-term policies. Such policies are almost entirely independent of the state of business activity. By the laws of chance, there will be some variations in the total annual premiums paid on these policies; but it seems safe to assume that the consequent variations in the volume of money passing through the various channels are not of sufficient magnitude to cause even moderate reactions in business.

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[1] By "paid," we always mean paid with money.

3. Bad Debts, Trade Discounts, and Goods Given Away

Good accounting practice requires the deduction of an Allowance for Bad Debts from Gross Sales before determining Net Profits. Without allowance for this item, a figure purporting to be Net Profit would be misleading. A common practice is to include an Allowance for Bad Debts among the Overhead Expense items, although it would make no difference in our final conclusions if we were to place it, as some do, in the group called Disposition of Net Profits.

The holder of Bad Debts never disburses money on account of such losses. Such debts represent money due him which he never receives. We might, however, conceive of the transaction of crossing off a Bad Debt as if the amount of the loss were paid by the creditor to the debtor as an expense item of the former, and then paid back to the creditor in full satisfaction of the latter's claim. If we choose to look at the transaction in this manner, we should include channels in our diagram, leading from creditor groups to debtor groups, equal in width to the losses sustained on account of Bad Debts. The goods channels would then have to be made equal to the billing price of goods, and we should still have pictured a flow of purchasing power into the hands of the ultimate buyer equal to the sale price of goods produced. If we picture Bad Debts in this way, we add confusing lines to the diagram and we do not represent the actual flow of money. Therefore, we shall understand that the widths of the goods channels are equal to the billing price of goods, less the losses on account of Bad Debts.

We have assumed, in making our diagram, that business as a whole is able to "carry on" at a profit, even though every year there are financial failures in all lines. A single failure might be of such magnitude as to carry down others and precipitate a general crash; but our business history seems to justify the conclusion that if fundamental conditions could be kept sound, as pictured in Diagram 2, business could withstand the ordinary crop of failures which would occur even under the most favorable circumstances, without suffering general reactions. As long, then, as the net price received for goods as a whole is sufficient to show a satisfactory margin of profit to each group (and whatever may be the underlying cause, we assume this to be a fact) the element of Bad Debts will not prevent general business stability. Such an average net price is what we meant to imply by our phrase, "for which they must receive payment in money." Accordingly, in our diagram we assume that Bad Debts are not an element of expense, but are deducted from the gross sale price of the output, before determining the amount of money which must be disbursed in order to insure business stability. But whether the reader chooses to adopt this conception or the one first mentioned, no money need be disbursed by concerns on account of losses from Bad Debts.

For similar reasons, we prefer to treat Trade Discounts as a preliminary deduction from the gross sale price of the output, before determining the amount of money which concerns must disburse as costs or profits. Expenses such as Wages or Commissions which are incurred in attempting to collect Bad Debts are treated as a cost of operation; but these expenses are currently paid. In conclusion, then, we may say that whether or not Bad Debts and Trade Discounts are treated as a cost of operation, no money need be disbursed, and none is disbursed, on their account in order to preserve business stability.

The costs of producing Goods Given Away are assumed to be included in the costs of producing the goods which are sold. Therefore the value of such goods should not be included in figuring the value of goods produced, and the cost of producing them is not recorded as a separate and additional cost.

4. Materials and Supplies

Under this item, we include both materials which appear in physical form in the finished product, and supplies which are used up in the process of manufacture, such as coal for the power house. The great bulk of Materials and Supplies which are purchased by manufacturers are bought on credit, which is granted on terms which do not extend beyond the length of a full season of the buyer's business. If the volume of business was constant, as measured in dollars, the fact that disbursements were made against the purchases of previous months would not necessarily interfere with maintaining business stability. Current disbursements could still be equal to current output. As a matter of fact, the Accounts Receivable of manufacturers as a group are expanding up to the time of a commercial crisis. To some extent, this prevents the continuance of the existing scale of productive activity. To a greater extent, it prevents the disbursement by manufacturers of the full amount of their costs and profits, particularly profits.

We shall take up this point again in connection with a discussion of Profits. Here we may note that the continuous increase which actually occurs in the Accounts Receivable of Manufacturers, even after production (measured in units of goods) has reached a maximum, shows that wholesalers are not currently disbursing an amount of money equal to the value of the goods which they are purchasing for resale, and the failure to meet this requirement prevents a flow of money into the hands of ultimate buyers equal to the value of goods produced. Here, then, is one of the reasons why maximum business activity is not sustained.

5. Depreciation and Obsolescence

Under this item, we include the following elements of cost:

A. Physical wear and tear on capital equipment.
B. Physical depreciation which is independent of the amount of use.
C. Decrease in value due to progress in the arts; in other words, obsolescence.

According to customary accounting practice, these costs of operation are divided into two groups: Repairs and Renewals (or Maintenance), and Depreciation. These items are deducted from Income before determining Net Profits. In some cases; however, the allowance made to cover depreciation and obsolescence is divided into two items: one to cover what the best judgment of the auditor considers to be the actual depreciation and obsolescence suffered during the year, which estimate appears as an element of cost; the other — a further allowance to make assurance doubly sure — appears in the Profit and Loss Account as a deduction from the Net Profit for the year, before determining the amount that is available for the payment of dividends.

It will simplify our discussion if we consider all expenditures and allowances on account of Depreciation and Obsolescence as elements of cost to be deducted from Gross Income before determining Net Profit. It is only in rare instances that the value of a unit of capital equipment is kept at a constant figure, at the close of successive fiscal periods, either by repairs or renewals. The depreciation or obsolescence of one unit may be offset by the increase in the value of other units, on account of repairs or replacements, or by the addition of new units which are charged against Income.

In so far as the costs of Depreciation and Obsolescence are covered by repairs and replacements, there are current disbursements of money equal to these elements of cost; although here, again, it is likely that the failure to pay more promptly for such of these items as are purchased on credit prevents some creditors from currently disbursing the full amount of the value of their output.

In Diagram 2, we have shown a channel leading from Organized Producers of Finished Goods (or Manufacturers) to Stock of Finished Goods for use by Business and Industry. This channel may or may not be of sufficient width to equal the total cost of the depreciation and obsolescence, less the costs of putting these goods in place. If it is, the manufacturers, in respect to these elements of cost, fulfill our requirements for disbursements, provided their disbursements are sufficiently prompt. If the amount spent for repairs and renewals and additions is sufficient to increase the value of the capital equipment, such increase is not an element of cost. It represents a certain disposition of profits, some change in form of capital assets, or the investment of new capital.

A great many concerns, however, do not spend enough money out of income or current resources to keep the value of their capital equipment constant. In such cases, there is an item of Depreciation and Obsolescence in the cost summary for the year, which shows the amount by which the expenditures on account of repairs, replacements, and additions have failed to equal the total cost of Depreciation and Obsolescence. This does not necessarily mean, however, that disbursements of money *on account of* Depreciation and Obsolescence have been less than the cost of these items, but merely that if such disbursements (or more properly, such expenditures) have been made, they have not been made for repairs, replacements or additions.

If the manufacturer is conducting his business at a profit,[1] and his capital equipment shows a decrease in value from the end of one fiscal period to the end of the next, and if disbursements on account of current earnings have not exceeded these earnings, this decrease must be offset by an increase in the value of some other asset or assets, a decrease in the amount of some liability or capital account, or a combination of such offsetting changes.

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[1] Unless otherwise stated, we are always discussing the operation of business at a profit.

If the accrued depreciation is offset by increases in such assets as Investments, Prepaid Expenses, and (in some cases) Supplies, or if the company purchases its own outstanding securities, it disburses money to the full extent of the cost of depreciation, and thus satisfies our *monetary* requirements for business stability. Such disbursements do not appear among the items of cost in the Income or Profit and Loss account for the period; they are nevertheless disbursements made *on account of* the cost element of Depreciation. They serve to maintain a balance between purchasing power disbursed and goods produced, just as effectively as if the money had been disbursed for repairs, renewals or additions to plant and equipment. This is true, however, only if the money thus invested or loaned is spent for goods to be used up before it is employed to pay for the creation of more goods.

If a concern should maintain its capital equipment at par for one year, and fail to do so the following year, putting the money instead into Supplies, it would tend to produce instability in the Supply business. But we are now concerned with conditions under which there will be equality between the total number of dollars added to the purchasing power of the ultimate buyer and the total value of goods produced for sale to ultimate buyers.[1] For this purpose, we note that there may be disbursements of money for purposes not included among the costs of the year in the annual statement, but due, nevertheless, to the cost element of depreciation, which serve to maintain a balance between the value of goods produced for sale and additions to the purchasing power of the ultimate buyer, just as effectively as if the money had been spent for the maintenance of the capital equipment.

On the other hand, if accrued depreciation is offset by increases in Raw Materials, Goods in Process or Finished Product, the disbursements involved thereby are not equivalent to disbursements on account of Repairs in maintaining this balance. Disbursements would still equal the net value of goods sold, but would not equal the value of goods produced. This statement may be clarified by a simple illustration. Let us suppose a concern begins a fiscal period with the following Balance Sheet:

ASSETS		LIABILITIES AND CAPITAL	
Cash	$100	Accounts Payable	$100
Accounts Receivable	100	Capital	1100
Fixed Assets	1000		
	$1200		$1200

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[1] The conclusions here reached in regard to Supplies are based on the assumption that the Supplies purchased by a manufacturer do not constitute a possible source of supply of such articles for other manufacturers and are not in excess of the amount which would be purchased irrespective of the price outlook. In case they do, such Supplies should be classed with Raw Materials, Goods in Process and Finished Product.

During the period in question, the property is fully maintained, all profits earned are disbursed, and the next Balance Sheet is identical with the above. The Income Sheet for the period is as follows:

Sales		$1200
Cost of goods sold		
Materials	$400*	
Wages	400*	
Maintenance	200*	
Total cost		1000
Net Profit		200
Dividends paid		200*
Balance to Surplus		000

The starred items, representing disbursements of money on account of costs and profits, total $1200, which equals the value of the goods produced.

Let us assume, however, that only $100 is spent on maintenance and that the other $100, formerly spent for maintenance, is spent for the production of goods for stock.

The Balance Sheet at the close of the period will be as follows:

Assets		Liabilities and Capital	
Cash	$100	Accounts Payable	$100
Accounts Receivable	100	Capital	1100
Finished Goods	100		
Fixed Assets	900		
	$1200		$1200

The Income Sheet will then be as follows:

Sales		$1200
Cost of goods sold		
Materials	$450*	
Wages	450*	
Maintenance	100*	
Depreciation	100	
Total	1100	
Less Inventory	100	
Net cost of goods sold		1000
Net Profit		200
Dividends paid		200*
Balance to Surplus		000

In this case, the total disbursements are $1200 as before; but the total value of goods produced for sale is $1320. Of this total, $1200 represents sales, and the balance of $120 represents the sale price of the increase in the stock of goods on hand. The inventory of unsold goods to the value of $120 is a potential danger to the existing level of prices of the products of this company, which danger would have been avoided had the $100 been spent for the maintenance of Fixed Assets.

If this inventory of Finished Goods is *permanently* regarded as a *minimum* need of the company to provide for satisfactory delivery to customers, it is not a potential danger. It is quite impossible to determine just what proportion of inventories should be classed among the Fixed Assets of a concern. It depends largely upon the business outlook. This, however, we can say: increases in stocks on hand which are predicated upon a continued growth of business or a continued rise in prices constitute a source of danger to sustained activity. The stocks which a manufacturer may one day consider necessary for the proper conduct of his business may the next day be thrown on the market, thus initiating or accentuating a break in prices which may develop into a commercial crisis.

Thus, the investment (if such it may be termed) of Allowances for Depreciation in Stocks of Finished Goods means a production of goods in excess of purchasing power disbursed. It does not conform to one of our requirements for business stability, and therefore endangers sustained activity. Dangerous in the same way, but in lesser degree, is the investment of Allowances for Depreciation in Raw Materials and Goods in Process, and in some cases, as we have noted, in Supplies.

Let us return to the original Balance Sheet, given above. Let us again assume that the expenditures for Maintenance fail to equal the depreciation by $100, and that the money is put into the production of additional Finished Product. This time, however, let us assume that the additional product is sold, but not paid for. We shall then have, at the close of the period, the following Balance Sheet:

ASSETS		LIABILITIES AND CAPITAL	
Cash	$80	Accounts Payable	$100
Accounts Receivable	220	Capital	1100
Fixed Assets	900		
	$1200		$1200

INCOME SHEET

Sales		$1320
Cost of goods sold		
Materials	$450*	
Wages	450*	
Maintenance	100*	
Depreciation	100	
Total		1100
Net Profit		220*
Dividends paid		220
Balance to Surplus		000

The value of the goods marketed has been $1320, while the purchasing power disbursed has been but $1220. Thus the concern, by offsetting accrued depreciation with an increase in Accounts Receivable, has again failed to conform to our requirements for business stability.

If all goods sold had been paid for, the Cash account on the Balance Sheet would have been $200 instead of $80; and it would then have been apparent that the concern had failed to disburse an amount of money equal to the value of goods produced. If, on the other hand, the concern had had outstanding loans at the bank, and had used the $100 increase in cash to retire loans to this amount, the fact that it had failed to conform to the requirements for business stability would not be apparent.

The money which the concern pays back to the bank may be loaned to another manufacturer (or even reloaned to the same manufacturer) to finance the production of goods. Thus, ultimately, it may reach the hands of a consumer, but not until after it has paid for the production of additional goods. The deficiency between the value of goods produced and the purchasing power disbursed by producers of goods would still exist.[1] For this reason, we have not regarded the payment of a bank loan as a disbursement of money.

Finally, we have the possibility that the $100 might be used for the reduction of Accounts Payable. If the concern to whom the money is paid has previously been disbursing money on account of costs and profits to the full extent of the goods produced, it will not have to disburse this money in addition to full disbursements for the current period. It may even use this $100 to retire bank loans, without thereby upsetting the balance between the flow of purchasing power and the flow of goods. It is not unlikely, however, that the creditor concern has failed to disburse the full amount required, on account of this purchasing power having been tied up in its Accounts Receivable; and although it may now make up such deficiency, it will not be the same as if the money had been disbursed simultaneously with the production of goods.

This time element in the disbursement of money is of great importance and will receive attention later. At this point, a homely analogy will suffice. The promise of food three months hence in sufficient volume to sustain the lives of thousands of hungry Russians would not be the same as the immediate establishment of an available supply: at the end of three months, half the population might be dead. There is also a limit to the extent to which business activity can survive on the expectation of a sufficient volume of purchasing power in the hands of the ultimate buyer. Thus we see that some of the ways of handling the item of accrued depreciation do not result in the disbursement of money by a producer equal to the value of goods produced.

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[1] The possibility that this money will be loaned directly to an ultimate buyer will be considered later.

In actual business, during times of business activity, there is widespread failure to keep Plant and Equipment up to a constant value. This is due to a variety of causes, among the most important of which are the following:

1. The impossibility of keeping a new plant up to a constant value without making additions thereto which may not be warranted by the demands for the company's product.
2. The impossibility of securing prompt deliveries on renewals of equipment.
3. A settled policy of postponing as much Maintenance as possible until periods of depression, when costs will be lower and the demands on working capital less.
4. The fact that prices continue to advance (until a commercial crisis occurs), thus making it appear desirable to postpone Maintenance and put the

money, which is available for this purpose, into the purchase of additional supplies of Raw Material, or into Finished Product which may or may not be sold at once.

5. The tying up of so much working capital in Accounts Receivable that money is not available for complete maintenance, without additional loans from the banks.
6. The fact that concerns are loath to use up their lines of credit to take care of Maintenance expense, or, on account of their solvency position, are unable to obtain additional loans.

On account of the foregoing causes, expenditures for Repairs and Renewals, out of current income or bank loans, fall far short of total costs of Depreciation and Obsolescence. The resultant decrease in the value of Plant and Equipment must, as we have said, be offset by other changes in the Balance Sheet; but the cases in which it involves the disbursement of money equivalent to money spent for Maintenance (as in the case of Prepaid Expenses and sometimes Investments and Supplies) are comparatively rare.

Thus we note that the failure of manufacturers to meet all their costs, particularly for Materials and Supplies which may be purchased on credit, and for Depreciation and Obsolescence, with current disbursements of money means that, in each successive fiscal period, they fail to make disbursements equal to the value of goods produced.

An analysis of the operations of organized Producers of Raw Material, Producers of Semi-finished Products, Distributors, and Producers of Services and Intangible Goods would show that, in similar ways, they also fail to make current disbursements equal to the value of goods or services currently produced.

All this means, in simple terms, that, unless offset by other factors which we shall attempt to discover, the current business practice with respect to the handling of costs during a period of activity is such that the flow of purchasing power into the hands of the ultimate buyer in each successive period is not equal to the value of the various things produced for his satisfaction. The result is in part responsible for a constant accumulation of unsold goods on such a scale as to provide the cause of, or at least the proper setting for, a commercial crisis.

Let us now analyze the present business practice in the disposition of Profits. This we shall find is much more responsible for a constant accumulation of goods during an era of business activity than the current practice with respect to Costs.

CHAPTER VI

It is an almost universal practice of American business concerns to pursue a "conservative" dividend policy during periods of business activity. That is to say, they do not disburse money to the stockholders to the full extent of their book profits even on goods which are sold — let alone the distribution of profits on all goods produced or placed on sale. For our present purposes, we need not analyze the reasons for the adoption of a conservative dividend policy. We are now interested in the effect of such a policy on the flow of purchasing power into the hands of the ultimate buyer of goods.

One reason for this policy, however, it may be well to discuss at this point, namely, the fact that the determination of profits, even with the aid of the best accountants, is a matter of estimation. This is due in large measure to the fact that some items of cost cannot be determined accurately. For instance, in the case of Manufacturers, the cost of Depreciation and Obsolescence is often an item of much uncertainty. However, as far as the flow of money to balance the goods produced is concerned, it matters not whether such costs are overstated or understated, provided the offsetting item on the Balance Sheet has involved the disbursement of cash to the amount of such costs, and this disbursement has not been made in return for the creation of additional goods for sale. (See preceding discussion on Depreciation.)

On the other hand, the amount spent and charged to Maintenance may have been more than sufficient to maintain the property at a fixed value; and yet, to be on the safe side, no increase in the value of Plant and Equipment may be shown on the Balance Sheet. However, the balance between goods produced for sale and money disbursed will be maintained just as well as if all earned profits had been disbursed to stockholders. This fact is evident from Diagram 2. Let us assume that a part of the channels leading from any one or all the Producers and Distributors rectangles to the rectangle marked Distributor's Stock of Finished Goods for use in Business and Industry represents goods purchased for improvements and additions to Plant and Equipment, but nevertheless charged as costs either knowingly or unknowingly. The diagram still represents a stabilized condition.[1]

The value of goods which have been sold must always be equal to stated costs plus stated profits. A shifting of the line of demarcation between costs and profits does not affect their sum total or necessarily change the relation between goods produced and purchasing power disbursed. Therefore, business stability which depends partly on the disbursement of money by producers and distributors equal to the value of goods produced and handled is not contingent upon an exact determination of profits.

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[1] The reader is cautioned to keep in mind the qualification previously stated in regard to the purchase of Goods for use in Business and Industry, namely, that such purchases are not contingent upon an increase in the total value of goods produced. The possibility of stability with growth will be considered later.

Let us, then, consider the results of various dispositions which may be made of profits earned on goods sold. In the first place, we may note that so-called "distribution of profits" does not always involve the current disbursement of money. This is the case whenever a company pays a stock dividend or a scrip dividend. A stock dividend in itself adds nothing to the purchasing power of individuals: it is not a disbursement of money. Neither is a scrip dividend: it is merely a promise to pay money in the future. It is a case of "Eventually — but not now." Nearly all scrip dividends are held until maturity, or sold. Therefore, in measuring the extent of undivided profits, we must count as profits disbursed only such profits as are paid in money. During periods of maximum activity, probably less than two thirds of the current profits earned by American business concerns are distributed as cash dividends to stockholders, or as cash payments to employees or others under bonus, gift or profit-sharing plans.

What, then, becomes of these profits? Some have not yet been realized in money: they are "tied up" in increases in Accounts and Notes Receivable. In this form, they are not available for distribution to stockholders. Many concerns have neither the cash nor the borrowing capacity to pay dividends to the full extent of their profits, even if they wished to do so; and this, despite the fact that all Accounts Receivable might be paid when due. It is true, however, that the rate of liquidation of Accounts Receivable as a whole becomes slower and slower during a business boom. It is partly on this account and partly because of the growth of sales that the items of Accounts and Notes Receivable show, on the whole, a constant increase up to the time of a crisis; and their growth is one of the reasons why dividends are not equal to total profits earned.

Part of the undistributed profits, however, are realized in money, and the money is used to increase certain Assets or decrease some of the Liability and Capital items. The effect of using undivided profits in this manner is precisely the same, for each account, as the disposition previously discussed of Allowances for Accrued Depreciation.[1]

Many manufacturing concerns use most of the profits which have been realized in money, but not distributed as dividends (or to employees or others under profit-sharing or other plans), to increase stocks of Raw Materials, Goods in Process, or Finished Product. In the case of Goods in Process and Finished Product, the previous analysis (with the substitution of the item of Undivided Profits for Allowance for Depreciation) has demonstrated that, if profits are thus used, the concern fails to disburse an amount of money equal to the value of goods produced. The deficiency between purchasing power disbursed and goods produced is the same when the undivided profits are spent for Raw Materials. In this case, the concern disburses an amount of money equal to the value of goods it produces, but industry *as a whole* does not currently disburse an amount of money equal to the value of all goods produced.

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[1] We may recall that, as undivided profits are "invested in" (1) Plant and Equipment (which does not involve an increase in the value of the output), (2) Prepaid Expenses, (3) Investments (as a general rule), or (4) a reduction of outstanding capital securities (other than bank loans), the concern does its share in maintaining a balance between goods produced and purchasing power disbursed, just as truly as if the same amount had been disbursed as dividends to the stockholders. With respect to (3) and (4), however, it is essential that the money so disbursed shall be used for the purchase of goods by an ultimate buyer before it is again used to pay for the creation of additional goods.

There is a possibility, if not indeed a probability, that the Circuit Velocity of Money will change with changes in the channels through which Undivided Profits are disbursed and thus affect the volume of current purchases by ultimate buyers, even though the total amount disbursed by producers remains the same. This possibility is worthy of study, but is beyond the scope of this book.

This statement will be clearer if we assume that there is complete vertical integration in each industry. In this case, each concern that produces a finished product also produces all its Materials, Supplies and Equipment. In other words, it purchases no tangible goods from others. If we set up simple Balance and Income Sheets, the latter including the disposition of earnings as above, it would be clear that the investment of undivided profits in Raw Materials means that the purchasing power disbursed falls short of the value of goods produced by the amount of profits thus invested.[1]

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[1] Assuming inventories were taken "at cost."

For some readers, the whole analysis of the relation between the value

The amount of money disbursed which would immediately or ultimately reach the Individuals rectangle would be the same whether profits were disbursed as dividends or paid out in return for the creation of additional goods; but the crux of the matter is that, in the latter case, the flow of goods into the Stock of Goods rectangles would exceed the flow of purchasing power into the Individuals rectangle.

What we have said with respect to the disposition of undistributed profits of manufacturers applies also to the other units of organized industry and business, with obvious qualifications, such as that investments of profits in stocks of goods by distributors are limited to *Finished* Goods.

We have as yet no data by which we can estimate the relative amount of undivided profits so disbursed as to result in a flow of purchasing power into the hands of the ultimate buyers which is less than the value of goods produced. Certain it is, however, that a considerable sum is disbursed in this way. If we add to this the undivided profits that are not disbursed at all (i.e., the profits which remain tied up in Accounts Receivable, or which are used to reduce bank loans), we can account for a considerable deficit of purchasing power, and one much greater than that caused by the way in which business concerns handle certain elements of cost discussed above.

of goods produced and the purchasing power available for the purchase of these goods may be clarified by analyzing a diagram drawn upon the assumption that there is complete integration in each industry including both production and distribution.

If this deficit is not in excess of a possible permanent increase in the size of stocks, it does not interfere with sustained activity. But, in our judgment, it is far in excess of a possible permanent increase. Therefore, the handling of undivided profits during a period of activity leads to an accumulation of goods that provides a sufficient cause, or at least the proper setting for, a commercial crisis.

By way of a summary of the discussion of profits up to this point, we may say that business stability does not require the disbursement in money dividends of all profits on goods produced, but that there are more or less definite limitations on the use of profits for other purposes, if a balance is to be maintained between goods produced and new purchasing power placed in the hands of ultimate buyers.

Throughout the foregoing discussion of profits, we have been concerned only with the distribution of earned profits on goods sold. Now, one of the conditions for business stability is that producers of goods should disburse money on account of profits equal to the profits on all goods produced or distributed. The progress of business, as pictured for the simple community at the outset of our discussion, suggests that it is not necessary for business concerns to disburse unearned profits in order that the volume of sales may be built up to a point equal to the maximum volume of production; but that, if all profits as earned are currently disbursed, the volume of sales will gradually increase until it equals production.[1] It appears certain, however, that sales to ultimate buyers will not equal maximum production, and it is certain that they cannot be maintained at this rate, unless all earned profits are disbursed according to the requirements we have set forth. These requirements are not now fulfilled under existing business conditions.

Thus we note that the combined non-use of profits and the "improper"[2] use of profits, which together represent a considerable portion of earned profits during a period of business revival and activity, is responsible for the constant accumulation of unsold goods at such times, with a commercial crisis as the inevitable, ultimate result, even if there were no other factors tending to produce the same outcome.

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[1] This statement is based upon the important assumption that the production of goods is not established upon such a scale that the total value of its products will be out of proportion to the total value of other things (i.e., intangible goods and services) which are produced to meet the direct or indirect demands of Individuals, when activity is at a maximum. We shall discuss this problem in detail later.

[2] By "improper" use, we mean the use of profits in ways which do not tend to preserve an equality between the flow of goods and purchasing power.

CHAPTER VII

A FEW concrete examples from current business experience may help to clarify the foregoing abstract analysis. For this purpose, we take the Balance Sheets of three companies, chosen at random from *Poor's Manual of Industrials* for 1920. We present the figures at the beginning and at the close of 1919, a year marked by an increase in business activity.

Bigelow-Hartford Carpet Company

ASSETS	Jan. 1, 1919	Jan. 1, 1920
Buildings, Land and Machinery	$7,661,231	$7,461,901
Inventories	3,621,796	5,324,970
Cash	612,820	627,597
Liberty Loan and Treasury Certificates	2,177,800	1,186,900
Other Investments	25,512	39,391
Accounts Receivable	1,649,301	2,734,984
	$15,748,460	$17,375,743
CAPITAL AND LIABILITIES		
Capital Stock	$13,550,000	$13,550,000
Accounts Payable	134,252	373,892
Dividends Payable February 1	324,000	243,500
Reserve Account	76,757	76,758
Reserve for Taxes	375,000	647,708
Surplus	1,288,451	2,483,885
	$15,748,460	$17,375,743

Net earnings for 1919: $2,088,935.

For our present purposes, it is not necessary to analyze all the changes in the Balance Sheet of this company during the year. Among the principal changes, we note the following:

a. The property of the company suffered a net accrued depreciation of $199,330.

b. Taxes chargeable to the year's operations remained unpaid to the extent of $272,708.

c. The company fell $1,105,434 short of disbursing its full profits to stockholders.

Neglecting for the moment the increase in Accounts Receivable, we note that the total amount by which the company failed to make direct disbursements on account of costs and profits was approximately $1,667,000.

This does not necessarily mean, however, that the company failed to disburse an amount of money equal to the value of the goods produced. The above-mentioned unpaid items must be offset by increases in one or more assets, or by a decrease in one or more liabilities or capital accounts; and it is possible that such changes might involve the disbursement of money in ways which would be equivalent to the direct disbursement on account of costs or profits.

In this particular case the offsetting items are found among the following changes:

Increases:	Cash	$14,777
	Inventories	1,703,174
	Accounts Receivable	1,085,683
Decrease:	Dividends Declared	80,500

Of these changes, only the last item involves the disbursement of money in ways which are equivalent to the direct disbursement of costs and profits in preserving an equality between the flow of goods into the markets and the flow of purchasing power into the hands of ultimate buyers.[1]

The increase of $1,085,683 in Accounts Receivable should not be considered as a disbursement of money, since any money disbursed in obtaining these Accounts Receivable has already been included as a disbursement on account of costs. If these Accounts Receivable had been paid in full just before the end of the fiscal year, and this increase of $1,085,683 had been shown in the Cash account, it would have been clear that an increase in Accounts Receivable should not be considered as a disbursement of money.

Thus, we see that this company failed by approximately $1,587,000 to disburse an amount of money equal to the value of the goods sold during 1919. It failed to make disbursements equal to the value of goods *produced* by a still greater amount, since there was unquestionably a large increase in the stocks on hand of semi-finished and finished products; and the inventory figure represents cost, not sale, price.

The increase in Accounts Payable of approximately $240,000 means that probably not all the costs of operation, other than those noted above, were paid during the year. Furthermore, the failure to pay cash for purchases of materials tended to make the disbursements of industry as a whole less than the value of the goods produced.

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[1] An exception to this should be noted, if any part of the increase in Inventories was in inventories of manufacturer's supplies, which should be grouped with Buildings, Land and Machinery for the purposes of this discussion.

Finally, we note that approximately $977,000, realized from the sale of Investments, was "put into" Inventories or Accounts Receivable. In all probability these securities were paid for out of the income of the purchasers, and if so the net result of these particular transactions was to tend to make the value of goods produced during this year exceed the purchases by ultimate buyers by $977,000, even if all the goods produced with this money were sold and all costs and profits thereon were directly met by a disbursement of money. In other words, this type of transaction represents a "short circuiting" of the flow of purchasing power, whereby money once used to pay for the production of goods is again used for this purpose, without meanwhile having been used for the purchase of goods by an ultimate buyer. If this money had been used to extend the Plant and Equipment of the company, there would have been, on this account, no deficit of purchases by ultimate buyers.

Thus, the total amount by which the financial and business operations of this company in 1919 tended to make the value of goods produced exceed the flow of purchasing power into the hands of ultimate buyers was in excess of $2,564,000.

Cluett-Peabody and Company

For a second example, we take the Balance Sheets of one of the principal manufacturers of collars and shirts.

ASSETS	Jan. 1, 1919	Jan. 1, 1920
Real Estate, Buildings and Equipment	$4,044,620	$4,031,978
Good-Will, Trade Names, etc.	18,000,000	18,000,000
Preferred Stock in Treasury	....	43,067
Liberty Loan Bonds	808,904	852,016
Cash	462,246	680,015
Bills Receivable	9,642	3,399
Accounts Receivable	2,595,688	4,271,254
Inventories	10,283,073	12,606,362
Manufacturing Supplies	815,867	859,084
	$37,020,040	$41,347,175
CAPITAL AND LIABILITIES		
Common Stock	$18,000,000	$18,000,000
Preferred Stock	7,000,000	7,000,000
Accounts Payable	18,150	15,007
Bills Payable	5,458,834	4,955,000
Preferred Dividends Payable	122,500	121,800
Reserve for Taxes	1,164,367	2,415,000
Surplus	5,256,189	8,840,368
	$37,020,040	$41,347,175

Net Earnings for 1919: $5,153,129.

For our present purposes, the most striking facts shown in these Balance Sheets are that, during the year 1919, the company did not pay the full taxes accruing on the year's operations by the amount of $1,250,633; and the company fell $3,584,179 short of disbursing its full earnings to its stockholders.

In what form do we find these unpaid expenses and undivided profits? An examination of these Balance Sheets shows that the offsetting items are found among the following:

Increases:	Investments	$86,179
	Cash	217,769
	Accounts and Bills Receivable	1,669,323

Inventories	$2,321,289
Manufacturing Supplies	43,217
Decrease: Bills Payable	503,834

Of the above offsetting items, only the increase in Investments and possibly, to some extent, the increase in Manufacturing Supplies[1] are equivalent to a direct disbursement of money, on account of costs and profits, in preserving an equality between the flow of goods and the flow of purchasing power. If we assume that the "favorable" part of the increase in Manufacturing Supplies is offset by the accrued depreciation of $12,642 in the fixed assets, the amount by which the operations of this company in 1919 tended to make the value of goods produced[2] exceed the purchasing power disbursed was more than $4,750,000.

Kaufman Department Stores

For the final example, we take the Balance Sheets of a distributor, in this case a large department store.

ASSETS	Jan. 1, 1919	Jan. 1, 1920
Good-Will, Trade Marks, Leases, etc.	$7,417,392	$7,374,784
Buildings and Equipment	864,686	787,653
Investments	328,009	785,725
Prepaid Expenses	48,208	46,808
Inventories	2,796,838	3,833,397
Accounts and Notes Receivable	2,243,954	2,966,525
Cash	770,136	721,777
Liberty Loan Bonds	251,692	237,240
	$14,720,915	$16,753,909

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[1] It is assumed that Bills Payable represent solely commercial bank loans.

[2] The reader is reminded that throughout this book the "value of goods produced" by any manufacturer is not limited to the finished product, but includes value already added to goods in process.

CAPITAL AND LIABILITIES

Common Stock	$7,500,000	$7,500,000
Preferred Stock	1,950,000	1,875,000
Notes Payable	1,475,000	400,000
Accounts Payable	734,523	2,014,636
Surplus	3,061,392	4,964,273
	$14,720,915	$16,753,909

Net Earnings for 1919: $2,039,381.

By proceeding with a mathematical analysis like that employed in the preceding cases, we find that, under the most favorable assumptions, this company's operations during the year 1919 tended to create a deficit of purchasing power amounting to more than $1,500,000.

The above examples were chosen at random. No attempt has been made to determine to what extent the mathematical results in these three cases are typical of all business and industry. It is held, however, that the above cases do typify the tendency which exists during the upward swing of business for distributors and producers to create a deficiency of purchasing power.

CHAPTER VIII

We may now take into account the fact that, in nearly every case, producers of goods receive money from sources other than the sale of their product. In this connection, we should recall another requirement for business stability, namely, that business concerns currently disburse all money received from sources other than the sale of their products. This must be in addition to disbursements equal to the sale price of their products.[1]

One of the principal outside sources of money is interest and dividends on securities of other companies. The money received from such sources becomes merged with the money received from the sale of products. Consequently, in nearly all cases, any attempt to trace the ultimate disposition of any particular cent would involve arbitrary assumptions. But, for our purposes, it is not necessary to trace the sources and ultimate disposition of each individual cent. A study of Diagram 2 will show that, if a balance is to be maintained between purchasing power and goods produced, not only must concerns disburse in money the full profits on all goods produced, but this money must be spent for goods to be used up before it is employed to pay costs or profits on goods produced by others.

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[1] For the sake of simplicity, we assume that all costs in connection with the collection of money from outside sources are included among the costs of production.

If the total dividends paid by a company are equal to the profits on goods produced, plus the income received from other sources, the company does its share (as far as the disposition of profits and outside income are concerned) in maintaining a balance between the flow of goods and purchasing power. If, on the other hand, the dividends disbursed are not equal to the above sum (thus creating Undivided Profits), what we have previously said in regard to the disposition of Undivided Profits applies in this case, irrespective of how we may allocate the source of these Undivided Profits as between earned profits and income from securities owned.

During periods of activity, it is unquestionably true that a considerable part of the income from securities owned by producers of goods is used for the purchase of Raw Material, or for the creation of Finished Products which may or may not be sold to others. In this, as in other ways suggested in the previous discussion, producers of goods fail to conform to the requirements for establishing and maintaining a flow of purchasing power equal to the flow of goods.

What we have just said in regard to the producers of tangible goods applies (with qualifications which are fairly obvious) to producers of intangible goods and services, and to distributors.

Another feature of the intercorporate ownership of securities deserves attention. Such ownership may be either in what we may call "open chains" or in "closed chains." By open chains we mean cases in which A Company owns some securities of B Company; B Company owns some securities of C Company; C Company, of D Company, etc. By closed chains, we mean cases in which A Company owns securities in B Company, B Company, in C Company and C Company, in A Company.

In the case of long chains, it may be years before interest or profits disbursed by a company at the beginning of an open chain are used by an ultimate buyer to pay for a purchase of goods. It is probably true that, on account of such open chain ownerships of securities there is a considerable flow of purchasing power which does not reach the final markets for goods until after a commercial crisis has occurred. Indeed, some of it may never reach the retail markets; for, during the liquidation period following the crisis, it may be used to pay off bank loans. Thus, this lag in the flow of interest and profits to the final markets adds temporarily to the current deficiency of purchasing power during the upward swing of business, and therefore becomes one of the contributing causes of crises.

A mathematical analysis shows that closed chains of intercorporate ownership of securities cause a lag in the flow of purchasing power several times as long as open chains of the same number of links. But, from the mathematical standpoint, neither open nor closed chains will prevent the ultimate establishment of a flow of purchasing power into the hands of ultimate buyers equal to the value of the goods produced, provided every concern continues to make disbursements equal to costs and profits plus all receipts of money from outside sources.[1]

We have no figures to show the extent of the intercorporate ownership of securities; but we feel safe in saying that the resultant lag in the flow of purchasing power presents a substantial obstacle to the upward swing of business activity, and a still greater, though temporary, obstacle to sustained maximum activity, once this point has been reached. Here, then, in the disposition and flow of intercorporate income, we have another factor which leads, during a period of business activity, to the accumulation of unsold goods.

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[1] The money received from other outside sources, such as the sale of capital assets, is small compared with income from securities. All that we have said, however, concerning the use of income from securities in maintaining a flow of purchasing power equal to the flow of goods, applies as well to the use of income from other outside sources.

CHAPTER IX

IN the foregoing analysis we have pointed out various ways in which producers and distributors fail, during a period of business activity, to disburse an amount of purchasing power equal to the value of goods and services produced; and we have concluded that, unless this deficiency in the flow of purchasing power is made good from outside sources, the inevitable result is a constant accumulation of unsold goods. Let us now turn our attention to a search for such "outside" sources of purchasing power.

At the outset, we must eliminate all sources of purchasing power for an individual, or for a company, which do not constitute sources of purchasing power for buyers of goods as a group. If, for example, any one sells securities or real estate to an investor, his effective purchasing power is increased by the amount of money he receives; but he gains in immediate purchasing power only to the extent that the buyer loses. Such transactions, therefore, add nothing to the buying power of individuals as a group.

There are, on the other hand, buyers who obtain money with which to buy goods without receiving money from other buyers — the owner of a gold mine, for example, who takes his output to the mint. In order to get at the fundamental principles in this case, let us return to our simple community, in which

A, B and C are individuals whose daily output of goods sells for $5 each, D works for B Company at $4 a day, and his daily output is priced at $5. If, now, each one spends his earnings of the previous day (including B's profits from his company), the amount spent is $20 (A=$5: C=$5: B=$6: D=$4) and the total sale price of goods produced, $20 (A, B, C and B Company, $5 each). If production and tastes do not change, the full daily output is taken off the market each day, without change in prices. If production or tastes do change, there may be goods left on the market until prices or production schedules are changed to meet the new conditions. For the present, we shall make the following assumptions:

1. The money demand for the products of A, B and C remains fixed at $5.
2. Their output remains constant.
3. All the remaining money demand for goods is spent for the products of B Company, which continues to offer goods at a profit of 20 per cent on the sale price.

Let us now assume that B Company decides to utilize one half its profits for the production of finished goods and that E, who is idle, is available for employment. We may now summarize what would happen as follows:

First day	
Goods produced (sale price):	
A, B and C at $5	$15.00
B Company (Cost $4.50)	5.63
Total	$20.63

Amounts spent for goods at the market:

A and C at $5	$10.00
B	6.00
D	4.00

Unsold goods of B Company	.63
Sales of B Company	5.00
Book profits of B Company	1.00

Second day

Goods produced:

A, B and C at $5	$15.00
B Company (Cost $4.50)	5.63
Total	$20.63

Amount spent for goods:

A and C at $5	$10.00
B	5.50
D	4.00
E	.50
Total	$20.00

Unsold goods of B Company	.63
Sales of B Company	5.00
Book profits of B Company	1.00

The transactions of the second day are the same as on the first, except that E's expenditure of $.50 takes the place of $.50 of B's former daily expenditures.

If we hold to our original assumptions, the transactions of the second day will be repeated as long as B Company is willing each day to add sixty-three cents' worth (at sale price) of goods to its stocks on hand.[1]

The question we now raise is whether the constant accumulation of stocks of unsold goods may be prevented by a flow of new gold into circulation. Let us assume, then, that F discovers a gold mine and is able to "pan out" sixty-three cents' worth of gold a day which he strikes into coins. If he begins to spend his daily output of new coins on the third day, the result will be as follows:

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[1] It may be noted in passing that the deficiency in purchasing power ($.63) is in excess of the amount of profits utilized for the production of goods ($.50) at current prices, because the deficiency is to be measured against sale price rather than costs.

Third day	
Goods produced:	
A, B and C at $5	$15.00
B Company (Cost $4.50)	5.63
Total	$20.63
Amount spent for goods:	
A and C at $5	$10.00
B	5.50
D	4.00
E	.50
F	.63
Total	$20.63

Thus, on the day when F begins to spend the product of his gold mine, goods sold are equal to the total value of goods produced on that day. Let us now continue our analysis, on the assumption that B Company continues to spend one half its profits for the production of goods, in addition to the production of goods equal to the previous day's sales. In other words, B Company pays out in dividends one half its profits and utilizes the remainder of its receipts for the production of goods for sale.

The accompanying table is a summary of the preceding days, together with those which follow.

We may now sum up the results of this simple example. On the first day when the output of the

DAY	PRODUCTION				AMOUNTS SPENT FOR GOODS						B COMPANY'S		
	A, B and C, each	B Co.		Total sale price	A and C, each	B	D	E	F	Total	Unsold goods	Sales	Book profits
		At cost	Sale price										
1	$5.00	$4.50	$5.63	$20.63	$5.00	$6.00	$4.00	—	—	$20.00	$0.63	$5.00	$1.00
2	5.00	4.50	5.63	20.63	5.00	5.50	4.00	$.50	—	20.00	0.63	5.00	1.00
3	5.00	4.50	5.63	20.63	5.00	5.50	4.00	.50	$.63	20.63	0.00	5.63	1.13
4	5.00	5.06	6.33	21.33	5.00	5.57	4.00	.50	.63	20.70	0.63	5.70	1.14
5	5.00	5.13	6.41	21.41	5.00	5.57	4.00	1.06	.63	21.26	0.15	6.26	1.25
6	5.00	5.64	7.05	22.05	5.00	5.62	4.00	1.13	.63	21.38	0.67	6.38	1.28
7	5.00	5.74	7.18	22.18	5.00	5.64	4.00	1.64	.63	21.91	0.27	6.91	1.38
8	5.00	6.22	7.78	22.78	5.00	5.69	4.00	1.74	.63	22.06	0.72	7.06	1.41

gold mine is spent on the markets, there are no unsold goods; but on each succeeding day there are unsold goods as follows: \$.63, \$.15, \$.67, \$.27, and \$.72. Thus, the deficiency between purchasing power and goods produced is getting greater and greater, in spite of a continued flow of new purchasing power from the gold mine which, at the start, was sufficient to overcome the lack of the balance between sales and production, due to the undivided-profits policy of B Company.

Without presenting the detailed calculations, we may note that, under the above assumptions with regard to the conduct of business, prices, and the flow of money, the daily output of F's gold mine would have to be as follows if daily sales are to be maintained equal to daily production:

Third day	\$.63
Fourth day	1.26
Fifth day	1.41
Sixth day	1.60
Seventh day	1.80
Eighth day	2.10

The above example, to be sure, fails to simulate actual business in many respects. For instance, the increasing amounts of money spent on successive days would not all be spent on the product of B Company, but would be spread over the products of all producers. Such being the case, the daily balances of unsold goods probably would be somewhat less than the amounts shown above. But we are not now attempting to measure these amounts exactly or to determine their relative importance. The foregoing analysis of the results of assumed conditions in a simple community is intended merely as an aid in picturing the following abstract analysis. This is an analysis of the conditions under which a flow of new gold coin can overcome the effect of a policy of "investing" profits in new goods intended for sale to an ultimate buyer.[1]

At the outset, we may note that only a negligible part of the output of gold mines which is used for monetary purposes actually circulates through all types of business transactions. Under our present system, the new gold quickly finds its way to the vaults of the Federal Reserve Banks, where, to all apparent intents and purposes, it is permanently locked up. Nevertheless, except for the gold that is shipped abroad, this new gold becomes a permanent addition to our domestic supply of circulating purchasing power, just as truly as if the gold itself were in circulation. The owners of gold mines quickly convert their output of gold into deposit credits at the banks, and, as they check against these deposits and the checks are redeposited, the identity of this new circulating purchasing power is soon lost. Except for withdrawals for use in the arts or the actual loss of the gold, this new gold is always in circulation outside the banks or is locked up in their vaults to the credit of some one, in either case being always a part of the money in circulation.

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[1] It may help the reader to study Diagram 2 in connection with the following analysis.

Thus, the output of gold mines provides an addition to the money in circulation and, under normal conditions, an increase in the amount of money passing through the hands of distributors and producers. Under normal conditions, this means an increase in the money profits of these concerns. If they follow a consistent policy of "investing" a given proportion of their profits in goods (in any stage of completion) intended for sale to ultimate buyers, this increased flow of money into their hands increases the deficiency of purchasing power (as measured in dollars) of each succeeding period. Thus, even if all the new purchasing power flowing from the mines is used for the purchase of goods by an ultimate buyer before it is used to pay for the production or distribution of goods, this flow must be large enough at the start, and furthermore of constantly increasing volume, if it is to overcome a deficiency of purchasing power due to the cause we are now considering.

Except in the event of the opening up of new and rich deposits of gold, neither of the above conditions is fulfilled. The ordinary flow of new gold into monetary uses is not large enough to overcome the deficiency in purchasing power (created through the causes we have discussed above) when business is active; nor does the rate of production tend to increase at such times. It is true that, when business is active, there is more speculative development of gold properties; but any resultant increase in output is soon changed to a decrease in output, because constantly rising costs of mining make it less and less profitable to operate the mines.

We must conclude, therefore, that although additions to our supply of monetary gold may provide an increase in the supply of money to match the secular growth of business, such additions, except for a short time following the development of new rich deposits, cannot provide a sufficient flow of purchasing power from "outside" sources to make up for the particular deficiency in purchasing power that we are here discussing.

Another major source of deficiency in purchasing power, mentioned above, is the failure of concerns to disburse book profits, because these profits are "tied up" in increases in Accounts Receivable. Again, we have to consider the possibility that this deficiency may be overcome by the flow of new purchasing power arising from new gold added to the money supply. It does not seem necessary to present an accounting analysis to justify the statement that, in so far as this kind of deficiency is made good by additions to the monetary supply from outside sources, it does not, as in the previous case, require a still greater increase in the volume of money in the following period in order that the balance between supply and demand shall be sustained. Each successive period is a problem by itself and the remedy for one period does not necessarily involve a still more powerful remedy in the next.

However, this important consideration must be kept in mind: whether the source of a persistent deficiency in the purchasing power on the part of the ultimate buyer of goods comes from the failure to disburse unrealized profits or the "improper" disposition of profits which have been realized, a constant flow of money coming into the hands of these buyers from the gold mines, as a means of wiping out this deficiency, involves a constant increase in the general level of prices. And the effects of a constant increase in prices are to stimulate increased forward buying which involves an increased amount of profits tied up in Accounts Receivable, and to stimulate an increased "investment" of profits in inventories.

A flow of gold from the mines into monetary uses is not the only "outside" source of purchasing power that reaches the hands of the ultimate buyer of goods before it is used to pay for the production of goods. Other sources which should be examined are:

1. Increases in the volume of subsidiary coinage.
2. Fiat paper money issued to meet an unbalanced government budget. (Not a present source in the United States.)
3. Bank loans not made to finance the production of goods.
4. Net balance of imports of gold from abroad.

These are all sources of increases in the money in circulation, and at least some of this new money may be used to buy goods for use before it is used to pay for the production of goods.

In addition to the possibility of new purchasing power arising from an increase in the money in circulation, we have two possibilities:

1. A reduction in the cash balances carried by Individuals; in other words, a more rapid turnover of money in their hands, thus increasing the Circuit Velocity of Money.
2. An increase in the proportion of individual incomes spent for goods.

It should be kept in mind that the above monetary sources of purchasing power are merely *possible* sources: they do not necessarily function during a period of maximum business activity. Thus, it may happen that the proportion of the total incomes of all individuals spent for goods actually decreases with sustained business activity. At present, we have no statistical information on this point.

Virtually all the conclusions we have reached with respect to new gold from the mines as an outside source of purchasing power apply to the other monetary sources that we have just listed. It seems unnecessary, therefore, to enter into a detailed analysis of the probable changes in the output of these sources or their maximum capacity, since a little thought on the matter, together with a general knowledge of the facts, inevitably leads to the conclusion that the deficiency between the total sale price of goods placed on the market (during a period of prosperity) and the purchasing power disbursed by producers and distributors of goods is so great that it far exceeds the actual flow of purchasing power from outside monetary sources.

CHAPTER X

THERE remain to be considered possible outside sources of purchasing power of a non-monetary type, such as:

A. Companies that operate at a loss even in times of prosperity.
B. Increases in the total outstanding Accounts Payable of Ultimate Buyers.
C. Sale of stocks of goods and the use of the proceeds to purchase new capital equipment.

A. Companies that operate at a Loss

Companies may operate at a loss for a long time by:

1. Obtaining the investment of additional funds.
2. Increasing the amount of loans from banks.
3. Drawing down stocks in trade.
4. Failing to maintain the value of fixed assets.
5. Reducing the average cash balance.
6. Reducing Accounts Receivable and increasing Accounts Payable.

The length of time will depend on the size of the current deficit and the extent to which it is possible to draw upon the above sources to keep the company going. What we are now interested in, however, is not the length of time, but the question whether the operation of a company at a loss, under any of the above conditions, will offset the deficit in purchasing power created by the customary method of conducting successful concerns. If it does offset this deficit, we are interested in the extent to which this factor actually operates, or might operate under certain circumstances.

1. First let us consider the case of a producer of goods who must meet all expenses of operation by current payments; who sells his product for less than the expense of production; and who is enabled to continue in business by obtaining additional funds. In order to picture the processes which are involved, let us again make use of the example of a simple community composed of four individuals A, B, C and D.

A works for X Company and D works for Y Company, the latter company being owned by B.

A and D receive $3 a day as wages and their products are sold for $4 each. B receives $5 for his daily production and C, $4.

Now, if all members of the community spend their daily earnings for new goods, the daily transactions are as follows:

Amounts Spent		Goods Produced (Sale Price)	
A and D at $3	$6	X Company and Y Company at $4	$8
B (personal receipts)	5	B	5
C	4	C	4
Stockholders' dividends of X Company	1		
Stockholders' dividends of Y Company	1		
Total	$17	Total	$17

There is now an equality between goods produced and goods sold to ultimate buyers.

Next, let us assume that the stockholders of X Company decide to pay out but fifty cents a day as dividends, and to use the remaining fifty cents of the daily profits to hire A overtime for the production of more goods. In order to avoid unnecessary complications, let us further assume that A spends his extra earnings on the same day they are earned and paid.

Our daily summary will then become:

Amounts Spent		Goods Produced (Sale Price)	
A	$3.50	X Company	$4.67
B	5.00	Y Company	4.00
C	4.00	B	5.00
D	3.00	C	4.00
Dividends of X Company	.50		
Dividends of Y Company	1.00		
Total	$17.00	Total	$17.67

Here, then, is a deficiency of $.67 a day due to the policy of X Company in utilizing part of their profits to pay for increased production. This is the type of deficiency which we have been analyzing above. Our question now is: Will this deficiency be overcome if some other company operates at a loss, and is enabled to continue to do so by obtaining increased investments in the enterprise?

Let us assume that C organizes the Z Company, and hires a new worker, E, at $3 a day. The working capital of the company is provided out of C's cash balance, without changing C's daily expenditures for goods. Z Company is enabled to get but $2 for its daily product; but C is so confident the goods will ultimately sell at a profit, that he uses $1 of his daily earnings to make good the company's loss.

Without going through a formative period, as in our earlier examples, let us take a daily summary after conditions have become stabilized according to the foregoing assumptions:

AMOUNTS SPENT		GOODS PRODUCED (SALE PRICE)	
A	$3.50	X Company	$4.67
B	5.00	Y Company	4.00
C ($1 less than formerly)	3.00	Z Company	2.00
D and E at $3	6.00	B	5.00
Dividends, X Company	.50	C	4.00
Dividends, Y Company	1.00		
Total	$19.00	Total	$19.67

Thus, the deficit in daily purchasing power still persists, in spite of the fact that we have added a new producer of goods who disburses $1 a day more than he receives for his daily output. With Diagram 2 and this simple example before us, we therefore conclude that this type of unsuccessful productive operation does not help to overcome the deficiency in purchasing power created by the conditions we have previously set forth.

2. If, on the other hand, a producer obtained the necessary money to meet the daily cash deficit by increasing his loans at the bank, this would help to overcome the deficiency of purchasing power. It is very likely true that the total volume of outstanding bank loans made to finance unsuccessful productive enterprises is constantly expanding up to the time of a

commercial crisis. This helps to overcome the current deficiency in purchasing power, thus tending to prolong the period of prosperity. But, in view of our previous analysis of the process of overcoming the deficiency by increasing the volume of money in circulation, we can safely state that only an insignificant part of the present deficiency is, or could be, permanently overcome by operations of the nature we are here discussing.

3. If a producer sells a part of his stock in trade in order to raise money to offset his losses on current operations, and thus to enable him to continue production, he thereby reduces the total stock of goods in the country; and, to this extent, he offsets the general deficiency of purchasing power. If all production were to cease and the proceeds of the sales of existing stocks were directly or indirectly used to buy goods, we should quickly reduce our stocks of goods to the vanishing point. In fact, this type of operation, taking place on a large scale, reduces stocks during the period following a commercial crisis. But, during the upward swing of business, operations of this character are almost a negligible factor in overcoming the general deficiency of purchasing power. Furthermore, it should be noted that, if the liquidated stocks were accumulated out of profits or savings during the upward swing of business, such liquidation would merely offset the previous deficiency created by the concern, and would not help to offset the deficiency created by others.

4. A producer might be getting a sufficient return from sales to enable him to continue operations for a long time, and yet fail to show a profit because of the fact that the returns were insufficient to provide for the depreciation of the fixed assets. In such cases, the fact that the concern is selling goods for less than cost does not help at all to offset the deficiency in purchasing power created by others.

5. To the extent that unsuccessful concerns meet current deficits in their cash operations by drawing down their average cash balance, they help to offset the current deficit in general purchasing power. It should be kept in mind, however, that unless this cash balance originated in a bank loan to the concern, its disbursement merely restores a deficit previously created by its establishment. Taken as a whole, this type of offsetting influence is at best a factor of very limited scope.

6. A producer may temporarily overcome a current cash deficit (resulting from a net loss on current operations) by reducing his Accounts Receivable or running up his Accounts Payable. If the debtors and creditors secure the necessary cash to meet these requirements of the producer by drawing down their average cash balances or by making additional loans at the banks, the net result of the operations of the producer at a loss will help to overcome the current deficit in the general purchasing power. If the reduced cash balances are later restored, or the loans paid up, the favorable influence of the above policy of the producer is

overcome. Moreover, in many cases the above policy of the producer would cause a curtailment of disbursements of his debtors or creditors. In this case, his operation at a loss would not help at all in overcoming the general deficiency. Thus, the net effect of such operations at a loss is a favorable factor of minor importance.

We have analyzed the effect of the operation at a loss of *producers of goods*, as a possible offsetting influence to the general deficit in purchasing power created, during the upward swing of business, by customary methods of conducting corporate enterprises. With obvious qualifications, which in some measure modify the conclusions, the analysis applies equally well to distributors and, to some extent, to producers of intangible goods and services.

We may summarize our conclusions in regard to the effect of the operation of business at a loss as follows:

1. It is only under certain conditions that the operation of business at a loss tends to offset the current deficit in general purchasing power. These conditions are that such operations involve —
   a. An increase in the volume of outstanding bank loans; or
   b. A reduction in average cash balances (in other words, an increase in the Circuit Velocity of Money); or

   c. The meeting of cash deficits in current operations by the sale of stocks on hand.

2. Even under the above conditions, operating at a loss may simply serve to offset previous deficits in general purchasing power created by the concerns themselves, since the last period of depression; therefore, operating at a loss may not help to overcome the deficiency created by successful companies.
3. The disturbing effect of concerns operating at a loss partly offsets the favorable effect, considered strictly from the mathematical standpoint which we have adopted in the above analysis.
4. Therefore, the net favorable effect of concerns operating at a loss is a minor factor in overcoming the general deficiency in purchasing power which is developed by successful companies during the upward swing of business.
5. The operation of business at a loss does not offer a permanent source of outside purchasing power of any appreciable magnitude.

B. Increases in Accounts Payable of the Ultimate Buyers of Goods

Let us now turn to the second of the so-called "non-monetary" sources of outside purchasing power, namely, an increase in the total outstanding Accounts Payable of the ultimate buyers of goods.

Credit purchases by ultimate buyers of goods may be divided into two classes: those which do not exceed the accrued income of the buyer; and those which do exceed it. Increases in credit purchases of the first class do not help at all in overcoming the general deficiency in purchasing power. They do serve to make stocks of goods less than they would be without such purchases; but they do not tend to make the total purchases, since the last era of business depression, exceed the total value of goods produced since that date.

Another phase of credit purchases of this class deserves attention. By changing from a cash basis to a credit basis, an ultimate buyer may nearly double his scale of monthly purchases, in the month in which he makes this change. Thereafter, his monthly purchases must return to an amount equal to his monthly income. It is unquestionably true that nearly all ultimate buyers make some increased use of their credit facilities during the upward swing of business, as they become more confident of the continued receipt of income from wages or from securities. For this reason, if there were no other factors entering into the situation, we should expect retail purchases to reach a rate at which they could not be maintained; and the decrease in volume would tend to produce a commercial crisis. Such statistics as we have, however, do not show a decrease in the scale of retail purchases, measured in dollars, prior to the occurrence of a commercial crisis. Therefore, the decrease which would naturally occur as the result of the above factor must be offset by one or more other factors.

On the other hand, increases in the total outstanding credit purchases of the second class do tend to overcome the general deficiency in purchasing power, *provided* the money necessary to finance such credit sales does not come, as it does in some cases, from current savings. The most notable examples of purchases of the second class are the installment purchases of household furniture, farm implements, and, to a growing extent, automobiles.

In short, of the total increase in outstanding Accounts Payable of the ultimate buyers of goods, only a small part is "useful" from our present viewpoint; and this part is a minor factor and of limited scope.

C. Sale of Stocks of Goods

The last source of outside purchasing power which we have noted above proceeds from the sale of a part of stocks on hand and the use of these proceeds to pay for new capital equipment or replacements of equipment. Some concerns follow this policy during the early stages of an upward swing of business. Thus they help to offset the general deficiency created in other ways by these concerns or by others. But, by the time business reaches a state of maximum activity, virtually no concerns are following this policy.

We conclude, therefore, that the possible non-monetary sources of purchasing power, discussed above, provide sources which, at best, are utterly inadequate to make good the general deficiency, and that these sources diminish in importance as business approaches, and continues to operate at, a state of maximum activity.

Conclusions

Our general conclusions, then, with respect to the operations of organized business and industry during the upward swing of the business cycle are as follows:

1. Policies which many concerns pursue in the handling of certain items of cost and which virtually all follow with respect to Undivided Profits create a large deficit in purchasing power, compared with the value of goods produced.
2. Although there are various factors which tend to offset this deficiency, their combined effect falls far short of the required amount, particularly during the later stages of an era of prosperity, when the extent of these offsetting factors is decreased by the approaching exhaustion of the possibility of further credit expansion by the banks, while the amount of the current deficiency is constantly increasing.
3. Therefore, present methods of conducting organized enterprise provide one of the principal causes of, or at least the proper setting for, a commercial crisis.
4. As long as the above policies are pursued to the extent that they now are during a period of business revival and activity, there is no pos-

sibility that the deficiency in purchasing power will be permanently overcome by other factors, and a commercial crisis is the certain, ultimate result, even if there were no other causes tending to produce a crisis.

CHAPTER XI

THROUGHOUT the foregoing study of business operations, we have drawn our illustrations and conclusions from the procedure of organized industry and business. By organized enterprises, we mean those which keep books of account; but, in nearly all cases, the effects of given methods of operation on business as a whole are identical whether or not the concern in question maintains an accounting system, and whether or not it is approximately accurate.

There are, however, far-reaching differences between the operations of manufacturing and of farming; and, since the products of the farm constitute about one sixth of the total value of all production, these differences are of much significance. In the first place, the farmer does not offset the depreciation of his capital equipment by producing and carrying in stock an additional supply of goods for sale, as many manufacturers do during the upward swing of business. Nor is this depreciation offset by an increase in the farmer's Accounts Receivable. In other words, in the conscious or unconscious handling of the item of Accrued Depreciation by the farmer, there is nothing which tends to create a deficiency of purchasing power. There is likewise no tendency to create a deficit in purchasing power on account of the ways in which farmers handle other items of cost.

In the second place, there is no tendency to create a growing deficiency of purchasing power on account of the ways in which farmers handle the item of profits. To be sure, the great majority of farmers spend part of their receipts (which may or may not be real profits) in ways which tend to increase the amount of goods produced and which in many cases bring about this result. If the farmer, in the handling of stocks of finished goods, pursued the same methods as manufacturers and distributors, his policy of utilizing profits for the increased production of goods would have exactly the same tendency to create a deficiency of purchasing power. But the farmer does not use the same methods. With negligible exceptions, the farmer cleans up his stocks of finished products within a year from the time they are produced. As far as he is concerned, there is no yearly accumulation of stocks of goods. If the money which farmers spend to increase their output results in such increase and the total money demand for their products remains constant, they lower prices sufficiently to dispose of their inventories. Moreover, because of the comparatively accurate Government statistics in regard to expected production of farm products and stocks on hand, the changes in the prices of farm products in the possession of farmers are rarely precipitous enough to interfere seriously with the continuity of business.[1]

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[1] If there were the same current statistics for all classes of business, their use would prevent the operation of many of the factors which now lead to a commercial crisis. The full use of such statistics would be likely to delay the development of a state of maximum activity; and, when this

In fine, year in and year out, the farmer's disbursements of money equal the value of the goods which he produces for sale. In a bad crop year, his credit facilities may enable him to buy more than the value of his production for that year, but this is offset in a year or two. Thus, there is nothing in the operation of unorganized industry, as typified by farmers, which causes the development of a deficiency of purchasing power during the upward swing of the business cycle.[1]

state was reached, it might be at a much lower level of prices. The full effects of such statistics (which, by the way, Mr. Herbert Hoover seems planning to make available) is a subject worthy of much attention.

[1] We are not here considering the effect of the yearly variations in the total purchasing power of farmers. This important subject should receive separate attention.

CHAPTER XII

OUR thesis throughout the foregoing analysis of the operations of organized industry during the upward swing of the business cycle is that, unless business concerns disburse an amount of money equal to the value of their products, together with all money received from "outside" sources, there will be a deficiency of purchasing power in the hands of the ultimate buyers of goods which, unless offset by other factors, will lead to a constant accumulation of unsold goods. We pointed out various ways in which business concerns fail to meet this requirement. After an examination of the possible sources of outside purchasing power to offset the deficiency in purchasing power created by this failure, we concluded that, not only are these offsetting factors insufficient to overcome the deficiency, but there seems no likelihood that they will be sufficient, or can be made sufficient, to overcome it in the future.

We shall now attempt to show that the failure of business concerns to disburse an amount of money equal to the value of their products, and their failure to disburse all money received from "outside" sources, together with speculation and the use of savings for the creation of new goods intended for sale to an ultimate buyer, are not the only factors which cause an accumulation of unsold goods that leads to a commercial crisis. We shall maintain that the present methods of conducting business are such that there would be a deficiency of purchasing power, during the upward swing of business, even though business concerns did conform to our requirements for the disbursements of money.

In the following discussion, we shall exclude from our classification of finished goods those goods which are used up in the processes of production and distribution. In this chapter we shall use the words "new goods" to mean those tangible goods which are purchased for the direct satisfaction of the wants of individuals.

Every individual pays out a part of his income for tangible new goods, and another part for second-hand goods, personal service, taxes, insurance, investments, and so forth. Most of this money is disbursed by the individual himself, although a part is spent by groups of individuals for the satisfaction of individual wants. As we are not now concerned with this further classification, we shall lump together all money spent by individuals for the satisfaction of their desires, whether this money is disbursed by the individuals or by their agents.

We may divide the disbursements of all individuals into two classes, as indicated above: those made for the purchase of new goods, and those made for all other purposes. No statistics are now available by which we can measure either the absolute or the relative size of these two classes, nor are such measures essential to the following analysis. The discussion will suggest, however, that it might help to explain the course of past business cycles if we had monthly figures for these two classes of expenditures and monthly production statistics.

Turning once more to the example of a simple community, let us assume that business is on a stable basis, with the following daily transactions:

Total individual incomes	$20
Total individual expenditures for goods	15
Total value of goods produced	15
Total value of services rendered	5

Now, let us assume that X Company is organized to produce goods and employs a member of the community who is not now working. The value (i.e., sale price) of X Company's daily output is $4, and we assume that this Company's daily disbursements, either as costs or profits, amount to $4.

Under the original conditions, the members of this community expended seventy-five per cent of their income for goods. If they continue to maintain this ratio, the daily summary will become:

Total individual incomes	$24
Total individual expenditures for goods	18
Total value of goods produced	19
Total value of services rendered	6

Here, then, is a deficiency of purchasing power to take the daily production of goods off the market, even though the disbursements of all producers of goods equal the total sale price of the goods which they produce. In other words, we have a general overproduction of goods.

If X Company continues to operate with the proceeds of bank loans, and maintains its disbursements and the selling price of its daily product at $4, the time will come when seventy-five per cent of the daily income of individuals will equal $19 (the value of the goods produced), *provided* the selling price of the products of the others do not increase.

Let us examine these two conditions for stability. The essential feature of the first condition is that either the amount of money in circulation or its circuit velocity shall be sufficiently increased to make seventy-five per cent of the daily income equal $19. As there seems to be no reason why the circuit velocity should increase under the above conditions, we have assumed that an increase in the money in circulation must be forthcoming in order to provide for business stability. Now, if the burden of providing this increase in currency is to fall upon X Company or other producers of goods, it may involve either (1) an increase in their stocks in trade beyond that which they are willing to make, or (2) an increase in loans beyond their capacity to borrow or the capacity of the banks to lend.

Turning now to the second condition, we note that the advent of X Company caused an increase in the total daily expenditures for services. Such an increase might cause an increase in the demand for employees upon the part of companies producing such services, with a consequent increase in wages throughout all industry. This, in turn, might force the producers of goods to raise their prices to meet increased costs; and the situation would again be unbalanced. If the producers of goods maintained undiminished activities and met higher costs with higher selling prices, this process would tend to maintain the current deficiency in purchasing power for goods, irrespective of any limitation on the volume of money. There would always be overproduction of goods with prices moving constantly upward. In other words, if too large a proportion of the people are engaged in the production of goods, and a uniform wage scale exists throughout business and industry, there will be an overproduction of goods, no matter where the price-level happens to be.

Could the proper balance be reached by a reduction of the unit prices of tangible goods? It might if the maladjustment is not too great between the two classes into which we have divided all things produced for the satisfaction of the individual. A reduction of the unit price of tangible goods would mean a reduction of profits, wages, or cost of production; and such reductions have fairly well-defined limits. As a rule, producers of tangible goods do not intend to continue to operate at lower profits, or laborers to work at lower wages, than are available in other fields.

As a matter of fact, prices of tangible goods move up faster during a period of increasing business activity than do the prices of other things for which individuals spend money. At such times, therefore, price changes tend to augment rather than to diminish the effect of an overdevelopment of the production of tangible goods.

Thus we see that, even though all producers of goods and services maintain current disbursements of money equal to the value of their products, there may be a deficiency of purchasing power due to an overdevelopment of industries that produce goods.

During the upward swing of business, industries of the first class may operate at a relatively higher rate than other industries; but the resulting overproduction of tangible goods does not interfere with continued production, because the finished goods are taken off the manufacturers' hands by speculators and dealers, who are anticipating increased prices and sales. Furthermore, many manufacturers, actuated by the same motives as dealers, accumulate stocks of raw material and finished products.

If the more rapid expansion of industries of the first class does not carry them beyond the scale which can be sustained with business in general at the maximum, the stocks of finished goods accumulated during the period of business revival do not necessarily act as a bar to sustained activity. If, on the other hand, this overdevelopment continues after business activity reaches a maximum, and if there is a lack of knowledge of the volume of current production, stocks on hand, and sales to individuals, the result is the accumulation of such large stocks of goods that a commercial crisis is inevitable.

That is precisely what happens. Why? The core of the explanation is that production of industries of the first class (i.e., those producing tangible goods for the satisfaction of individual wants) is not regulated, during the upward swing of business, by the current demands of individuals: it is regulated by the demands of those who deal directly with these producers, mainly dealers and outside speculators. Dealers, by their policies of maintaining stocks commensurate with sales, and forward buying in anticipation of expected sales increases, and delays in delivery, and speculators in their purely fictitious demands, cause a marked overdevelopment of industries of the first class. There is, furthermore, no widespread knowledge (except in a few lines of trade) of the current volume of production, sales to ultimate buyers, and stocks on hand. Stocks continue to accumulate. The inevitable result, as we have pointed out above, is a commercial crisis, followed by a period of depression during which the surplus stocks, resulting from the prior period of maladjustment, are slowly and painfully liquidated.

CHAPTER XIII

BEFORE drawing our final conclusions, it may be well to discuss other factors which have an important bearing on the course of the upward swing of the business cycle.

Lag in the Flow of Money

First, we may consider the effect of the lag in the flow into the retail markets of increased disbursements by business concerns on account of increased costs and profits. A study of Diagram 2 suggests that it is likely to be a matter of several months before the *full* effect of increased disbursements by producers and distributors is felt in retail markets; but this diagram does not suggest the further lag, discussed above, due to the intercorporate ownership of securities. The total lag tends to make the current volume of retail purchases, at any given stage of the upward swing of business, less than it would be provided business continued at the existing scale of activity.

Tending to offset this lag are two factors, previously discussed: (1) the increase in the volume of outstanding bank loans, the proceeds of which are spent to buy goods for use before this money is employed in the creation of additional goods, and (2) the increased use of credit facilities. We believe that these two factors are not sufficient to overcome the effect of the lag in the flow of purchasing power mentioned above. Consequently, we believe that some of the accumulation of unsold goods, during a period of business revival, is due to this uncompensated lag. This lag, however, unlike the other causes which we have discussed, is not a permanent cause of a deficiency of purchasing power.

Changes in the Price-Level

In order to simplify the foregoing analysis, we have assumed a constant price-level; whereas, during the upward swing of the business cycle, there is an almost continuous rise of the price-level. What, then, is the effect of such an advance on the deficiency of purchasing power?

In many if not in a majority of cases, price increases yield higher profits to sellers. Even if these increased profits are disbursed as dividends (or used in ways which we have indicated above as equivalent to dividends in preserving a balance between production and purchases by ultimate buyers), there is no *immediate* increase in the volume of retail purchases. This lag in the development of an increased volume of purchases is due to two causes: the fact that increased profits are not immediately disbursed; and the fact that, when disbursed, much of this purchasing power flows through channels which bring it to the retail markets only after several weeks or even months. Substantially the same considerations hold with respect to increased costs. Therefore, there is a deficiency of current purchases until the increased flow of purchasing power becomes fully established.

On the other hand, the lag of retail prices behind wholesale and manufacturers' prices tends to overcome this deficiency. Indeed, it is conceivable that this lag might "create" a surplus of buying power. It is our judgment, however, that the net result of any given advance in prices is to create an additional current deficiency of purchases which is not entirely overcome for several weeks, or even months, after the price advance has taken place. Since the advance of prices is almost continuous during the upward swing of the business cycle, price increases are in part responsible for the constant accumulation of unsold goods during a period of business revival.

Price increases, however, should not be classed as one of the underlying causes of business crises, but rather the *causes* of these price increases, which occur after business revival is well under way. These underlying causes are buying to keep stocks commensurate with sales, forward buying and speculative buying.

Another feature of price advances is worthy of consideration. If price advances were always based directly upon the volume of demand of ultimate buyers, it would be fairly reasonable to assume that there would be enough money in circulation at the time to sustain such price advances. As a matter of fact, when business is active, prices of goods are determined, as a rule, by the demands of dealers and speculators. These demands, as we have previously noted, are considerably in excess of the current ultimate buyer demand, even after all the lag in the flow of purchasing power has been eliminated.

As a rule, however, such price advances are sufficiently well sustained by an increased buying power, having its origin in increased bank loans, to prepare the way for further price advances. If the upward movement of prices runs its full course, the time comes when the banks are no longer able to provide a further substantial increase in loans. At this time, it seems likely that the price-level has been carried so high by dealer and speculator bidding that the banking system would be unable to provide a sufficient amount of money to sustain the price-level, even though there were a sufficient demand for loans to bring the desired amount into circulation.

Speculation

One important effect of speculative purchases of goods is to increase prices, but these increases are not sustained unless the increased volume of sales is sustained. Now, as long as the volume of speculative loans is not reduced, the additional volume of money in circulation will make some increase in the volume of sales, but, on account of the comparatively long circuit time of money,[1] the permanent increase will not be equal to the temporary increase. To make this point clearer, let us assume that manufacturers base their price quotations on monthly sales, and that in a given month five per cent of the sales are made to speculators who, in order to make these purchases, borrow money from the banks. As long as this additional money remains in circulation, it will cause some permanent increase in monthly sales; but if (as preliminary estimates indicate) the circuit time of money is about five months, this additional money will cause a permanent monthly increase in sales of but one per cent. Thus, even though the money to pay for speculative purchases of goods is obtained from the banks, producers' sales, and therefore prices, will not be sustained when the banks are no longer able or willing to increase the volume of their loans.

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[1] See "Circuit Flow of Money," *American Economic Review*, September, 1922; and "Circuit Velocity of Money," *American Economic Review*, June, 1923.

It may be noted in passing that the purchasing power which is gained by successful speculators in commodities represents purchasing power taken away from those whose incomes from wages and investments increase more slowly than prices.

Finally, we may observe that the secular growth of our potential supply of money is far below that required to provide enough money to finance a constant advance of prices which is sufficiently rapid to prevent a periodic general unloading of speculative holdings. Only when the printing-press is freely used, as in Germany since the Armistice, can prices advance for an unlimited period with sufficient rapidity to prevent such a general liquidation of speculative holdings as to precipitate a commercial crisis.

Savings

We have pointed out above that if individuals or their agents use their income to pay for the creation of additional goods for sale, there is to this extent a surplus of production over sales to ultimate buyers of goods. The accumulation of unsold goods on this account, however, does not necessarily interfere with sustained business activity. For instance, these savings may be used to buy new lines of goods, or stocks for a new commercial enterprise. To the extent, therefore, that the stocks of goods paid for out of savings do not exceed the amount required for proper service to customers under sustained business activity, such operations, although causing a deficiency of current purchasing power, do not tend to bring about a commercial crisis.

It is probably true that money saved has a slower circuit time than money spent; and if the relative volume of savings increased during the upward swing of business, this would tend to create a deficit of current purchasing power. However, we have as yet no evidence that this is a contributing cause of commercial crises.

Transactions involving Foreign Exchange

Diagram 2 pictures an exact balance of exports and imports, under conditions of stability in production, trade, volume of money and circuit velocity of money. This is the simplest condition of foreign trade that can be pictured, a condition that never exists. However, an exact equality between the value of exports and imports of tangible goods is not essential to business stability. The requirement which must be fulfilled, in order to preserve perfect stability from a mathematical standpoint, is that the value of goods imported (or exported) equals the net favorable (or unfavorable) balance of all other transactions involving foreign exchange. Thus, before the World War, England had a continuous unfavorable balance of trade in tangible goods; but as long as the excess of imports did not exceed the net balance of all other transactions involving foreign exchange, this unfavorable balance of trade, of and by itself, did not tend to prevent sustained productive activity within the country at a constant level of prices. Again, if a country like Alaska produces more than "its share" of the gold supply of the world, it may have an unfavorable balance of trade to the extent of its "surplus" gold production, without thereby interfering with the stability of its productive industries.

If foreign trade in tangible goods is such as not to interfere with the continuous productive activity of the country (taking into account the trade in intangible goods, services rendered, income from investments and the equalizing flow of newly mined gold), and there develops a reduction in the relative favorable balance of trade, or an increase in the relative unfavorable balance of trade, such a movement will create a deficiency of current purchasing power to take the domestic production off the markets at prevailing prices.

Under conditions before the World War, there was usually a marked degree of synchronism between the business cycles of different countries. But there was a sufficient lack of synchronism to create a tendency toward the condition just described in the country which was at the most advanced stage of the upward swing. This tendency is due to the fact that the price-level curve tends to follow the same path as the business activity curve. Therefore, transactions involving foreign exchange tend to contribute to a commercial crisis in the country which is at the most advanced stage of the upward swing of the business cycle; and, upon the development of such a crisis, the increase in the exportation of goods and the reduction of imports helps to bring about crises in other countries.

It should be noted, however, that under "normal" conditions the ebb and flow of purchasing power between countries is not of itself a sufficient cause for commercial crises, nor does it prevent the attainment of virtually constant productive activity.

Stability with Growth

Diagram 2 represents a stabilized condition without the element of growth. This does not necessarily mean that we cannot expand our business activities and at the same time maintain business at an undiminished pace.

In the foregoing analysis, we assumed that the purchases of "Goods for use in Business and Industry" did not involve an increase in the total value of goods produced. Let us consider this assumption. As far as the flow of goods and purchasing power is concerned, starting up production with new units of plant and machinery is fundamentally the same type of economic operation as the resumption of activity with old units which we have previously discussed. In this connection we recall that unless offset by the secular flow of purchasing power from outside sources, there will be an accumulation of unsold goods following the starting up of productive units, even though all costs and profits are currently disbursed, until the lag on account of the restriction in the payment of profits to realized profits is overcome, and the flow of purchasing power through all the various channels becomes fully established.

Thus, uncompensated tendencies toward what we might call secular business crises and periods of depression may develop out of the secular growth of business, in much the same way as the cyclical changes which we have analyzed. Under present conditions these tendencies do not in themselves produce independent crises, but serve to increase the severity of the cyclical crises.

Examining this problem of secular growth from another angle, we note that additional business requires an additional amount of money in circulation if the price-level is to remain unchanged,[1] but additions of an amount approximately adequate may be reasonably expected from (1) the normal growth of bank loans (to finance additional production and distribution and to satisfy the personal requirements of additions to the population); (2) the flow of new gold from the mines; and (3) the increase in subsidiary coinage. Indeed, since 1896, the growth in the volume of money in circulation has been more than sufficient to provide for the growth of business at a constant price-level. But even if these monetary conditions should not hold for the future, it does not seem likely that sustained business activity will be prevented solely by a secular decline in the price-level.

Why Business moves forward

Throughout the foregoing analysis we have pointed out various reasons why the flow of purchasing power into the final markets for goods fails to keep pace with the flow of goods during the upward swing of the business cycle. The flow of purchasing power to which we have constantly referred is that originating from productive and distributive industry, and, if this were the only "source" of purchasing power, business activity would not swing upward nearly as rapidly as it does.

Indeed, if there is this great deficiency in current purchasing power arising out of the fiscal policies of business concerns, the question arises why business moves forward at all.

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[1] Provided circuit velocity does not increase sufficiently.

One reason is that this deficiency is overcome to a great extent by the expansion of bank loans, the proceeds of which are used by an ultimate buyer of goods, before this money is used to pay for the production of goods. Indeed, the ultimate buyers' demand for goods arising out of the increase of such bank loans may be so great as to make the total ultimate buyers' demand in excess of current production, thus creating a temporary general shortage of labor. A study of Diagram 2, however, discloses the fact that, with possible minor exceptions,[1] the permanent, sustained demands of ultimate buyers cannot exceed current production. In other words, there can be no such thing as a permanent shortage of labor.

The principal classes of such loans are those made to (1) individuals, (2) construction contractors, and (3) companies which use the proceeds to enlarge their capital equipment.

If it were not for the expansion in these classes of loans, business recovery from a period of depression would be at a much slower rate, and the price-level reached just prior to a crisis would be much lower than under present conditions.

It should be carefully noted, however, that it is only the expansion of such loans that serves to overcome the current deficiency in the flow of purchasing power having its origin in productive and distributive industry. Purchases by speculators, increases in stocks in trade and the increased use of personal credit by ultimate buyers also serve to absorb temporarily the excess production; but here, again, such purchases are largely dependent upon an expansion of bank loans. When the expansion in the volume of such loans is checked, the effect of the deficiency of flow of purchasing power from permanent sources is felt, and the resulting accumulation of unsold goods is sure to bring on a major reaction in business activity.

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[1] These exceptions arise out of the fact that the flow of gold from the mines into monetary uses and the secular growth of bank loans may be so great as to create an ultimate buyer demand which would always be in excess of the current production at the existing level of prices. This would reflect itself in a secular rise in the price-level.

In considering the forward movement of business following an era of depression, the question naturally arises, Would such a movement take place if it were not for the impetus given to business by speculation?

Our experience in 1912 seems to indicate that a fairly rapid recovery is not dependent upon widespread speculation. In this instance, the recovery from the preceding period of depression was accompanied by an advance in the wholesale price-level of only about four per cent, an advance, it seems likely, which encouraged but a very limited amount of speculation in commodities.

The recovery of business from a period of depression does not always carry it forward to a period of maximum activity without intervening major reactions. There are many reasons for this, among which may be mentioned the following:

1. Too large stocks of goods on hand when the period of recovery begins.
2. An insufficient expansion of bank loans the proceeds of which are spent for goods by an ultimate buyer before this money is used to pay for the creation of additional goods.
3. A small growth in the use of personal credit for the purchase of goods by ultimate buyers.
4. A small amount of forward buying and speculation.
5. The occurrence of events which tend to destroy confidence in the outlook and result in a restriction of orders for future delivery.
6. Unfavorable developments in transactions involving the use of foreign exchange.

Conclusions

We may now summarize our conclusions as to the underlying causes of commercial crises. These causes, which operate during the upward swing of business, are as follows:

1. The fact that business concerns as a whole do not disburse an amount of money equal to the value of the things which they produce, in addition to the disbursement of all money received from outside sources.
2. Dealer buying to keep stocks commensurate with sales, forward buying, and speculation which bring about
    a. the relative overdevelopment of those in-

dustries producing tangible goods intended for the satisfaction of individual wants, and
   b. an almost continuous advance in prices.
3. The accumulation of stocks of goods held on speculation.
4. The use of savings and profits to pay for the creation of goods other than those used in the processes of production and distribution.
5. The lag in the flow of interest and profits into the hands of ultimate buyers, on account of the intercorporate ownership of securities.

We have at present no statistical information on which to base a judgment of the relative importance of these five causes.

It may be noted that the above factors may be divided into four groups which operate independently of one another. Factors two and three are not independent of each other, since speculation is one of the main causes of overdevelopment in the production of goods for the satisfaction of individual wants. Speculation is listed as a separate factor, because the actual stocks of goods held on speculation provide a cause for commercial crises, in addition to the effect of the accumulation of these stocks in causing the overdevelopment of industries producing tangible goods.

All five of the above factors tend to produce the same result, namely, a constant increase in the total amount of stocks of unsold goods, far in excess of the amount commensurate with the secular growth of business; and, largely due to the absence of accurate and widespread information with respect to the volume of production and sales to ultimate buyers, the resulting accumulation of unsold goods takes place on such a large scale that a commercial crisis, with an ensuing period of liquidation, with severe losses and wide-spread depression in business and industry, is inevitable.

Some readers may object to the above conclusions because of the fact that the actual events in the business world which precipitate a commercial crisis are not to be found in the foregoing list of causes of crises. Such an interpretation of what should be meant by the phrase "causes of crises" is entirely reasonable, but to raise an argument over a matter of definition is to miss the point. The essence of the analysis presented in this book is that the operation of the above factors produces a situation from which the inevitable outcome, sooner or later, is a commercial crisis followed by a period of depression. These factors are therefore called the *underlying* causes of commercial crises.

It is furthermore held, though without analytical argument, that, if it were not for the operation of the above factors, all those stresses which often appear as the immediate causes of crises would either cease to exist or their operation, in many cases greatly reduced, would not precipitate what we now call a commercial crisis.

It does not follow that the removal of the above factors would result in sustained maximum activity.

The variation of crops, tariff changes, trade changes due to national and international competition, widespread changes in the character of demand due to changing tastes or legislation, and similar factors will always produce situations to which business cannot adjust itself without some disturbance. But, in the absence of the five underlying factors, the variations in business activity due to intermittent causes, or the possible effect of the secular growth of business, would, in nearly all cases, be slight compared with the wide swings we have experienced in the last fifty years.

THE END

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